



Heinrich Nöth

Heinrich Nöth (1928–2015)

Influential Boron Chemist

On June 26, 2015 the “Master of Boron” Heinrich Nöth passed away, only six days after his 87th birthday. Nöth was born on June 20, 1928 as the son of the solo hornist of the Bavarian State Orchestra. Music was an early gift, and his talent meant that a professional career in this field seemed to be the right choice. Nevertheless, at the end of the 1940s he decided to study chemistry at the Ludwig-Maximilians-Universität München (LMU). Although he was always attached to music, chemistry became his profession. After his diploma in 1952, he received his doctoral degree for a thesis on hydrides of Group 13 elements, which he performed under the supervision of Egon Wiberg. After a short period as research officer at ICI in Great Britain, he returned to Munich to begin his habilitation on boron–nitrogen compounds, which he defended successfully in 1962. After four years as associate professor at the LMU, he left Munich to accept the renowned Chair of Inorganic Chemistry at Marburg University. In 1969, he returned to the LMU to succeed Egon Wiberg in the Chair of Inorganic Chemistry, a position he held until he retired in 1996.

Heinrich Nöth had started his own family already before finishing his dissertation. In 1953, he married Erika and they had two daughters. Nöth enjoyed his family life, and his seven grandchildren were a counterpart to his commitment for science.

Chemistry was his life. He worked on hydrides and elemental hydrogen compounds as well as on nitrogen compounds of lithium, beryllium, aluminum, and tin. But his main focus was on boron and its manifold chemistry. He synthesized low-coordinate boron compounds such as boron cations, aminoiminoboranes, methylidenboranes, and phosphanylideneboranes. Already at an early stage, his interest was in compounds with boron–transition-metal bonds, which resulted in a rhodium-catalyzed hydroboration reaction with catecholborane; even today this procedure still inspires metal-catalyzed borylation reactions. Boron-containing heterocycles such as borazines, borafluorenes, and strained borabicyclobutane derivatives were studied in his laboratories. Boron–hydrogen chemistry and redox chemistry of tetrahydridoborates played a prominent role in his research, and the reaction mechanisms of these reactions were elucidated. Electron-precise open-chain and cyclic oligoaminoboranes became accessible, and a cyclohexaborane was a particular highlight. ^{11}B NMR spectroscopy was important to Nöth as a tool in boron chemistry, but single-crystal X-ray diffraction was really his passion. A burning light in the diffractometer room of the institute after midnight indicated Nöth at work,

and he practiced this technique even when he was in his eighties.

The results of his research are summarized in more than 800 publications and 16 patents. During his active career, Nöth had more than 150 doctoral students. However, research was not his only important undertaking—he was a fascinating teacher and his experimental lectures on inorganic chemistry, the “Nöth show”, were treasured by many students.

It is not sufficient to describe Nöth as a dedicated researcher and teacher. He recognized the necessity to promote the natural sciences, specifically chemistry, in society. His personality and his gift for combining various interests and finding efficient solutions allowed him to hold several influential positions, not only in university administration and the Deutsche Forschungsgemeinschaft (German Research Foundation). He was President of the Gesellschaft Deutscher Chemiker (GDCh; German Chemical Society) for two terms (1988–1989 and 1992–1993), and he was also elected President of the Bavarian Academy of Sciences for two consecutive terms (1998–2005). Here he exerted formative influence on the visibility of science in Germany. Nöth was Editor-in-Chief of *Chemische Berichte* from 1976–1997, and was Senior Editor of its successor, the *European Journal of Inorganic Chemistry*, from 1997–1998. In addition, he was member of the advisory boards of 11 scientific journals.

Numerous honors followed, and he was elected to many academies and was made an honorary member of several chemical societies, both national and international. In 1991 he was appointed to the Bavarian Maximilian Order for Science and Art, the highest award for scientific achievements in the Free State of Bavaria. In 2009, his services to natural sciences were honored with the Officer's Cross of the Order of Merit of the Federal Republic of Germany.

As permanent guest professor at the CINVESTAV in Mexico City he promoted not only scientific exchange, but had a strong commitment to children's aid in Mexico. All these activities were supported by his family, and he liked to relax in his house near the Chiemsee, which was always a very welcome final destination for group excursions into the Bavarian mountains.

With the passing of Heinrich Nöth, chemistry has lost one of its most influential characters over the last few decades.

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