

**WERNER SCHREYER HONORED AT 17<sup>th</sup> V.M. GOLDSCHMIDT CONFERENCE, COLOGNE, GERMANY, AUGUST 20–24, 2007**

Through his own prolific studies and considerable energy and enthusiasm, Werner Schreyer (1930–2006) aroused the interest of petrologists and mineralogists in chemical systems that are both amenable to laboratory study and applicable to nature. Schreyer was trained as a geologist and thus never lost sight of the need to make laboratory studies pertinent to interpreting minerals and rocks in the field. He received his doctoral degree at the University of Munich (1957) and held a postdoctoral appointment at the Geophysical Laboratory (1958–1962) before obtaining his Habilitation at the University of Kiel (1962–1966). He was appointed Full Professor of Mineralogy and Petrology at the newly founded Ruhr University in Bochum in 1966. Even after retiring in 1996, he remained highly active in science until just before his death. He authored or coauthored over 250 publications, largely in international journals. A recipient of many scientific honors and awards, including a mineral named after him (schreyerite,  $V_2Ti_3O_9$ ), he said that to him the greatest honor was the Roebbling Medal, received from the Mineralogical Society of America in 2002.

**“From Field Observation to Experimental Petrology and Back”: A Session in Memory of Werner Schreyer**

Werner Schreyer combined astute observations in the field, where he teased out vast amounts of information from tiny bits of data, with precisely planned laboratory experiments to open new avenues of research. To pay tribute to this approach, Walter Maresch, Edward Grew, and Friedrich Seifert organized a special session at the 17<sup>th</sup> V.M. Goldschmidt Conference in Cologne. The session featured 21 contributions, including 11 oral presentations on Thursday, August 23, and 10 poster presentations two days prior (abstracts were published in *Geochimica et Cosmochimica Acta*, vol. 71, issue 15, supplement 1). Werner’s international reputation drew contributors from Australia, Austria, Belgium, China, England, France, Japan, Russia, and the United States of America.(Fig. 1)



Fig. 1 – Contributors to the session (left to right): Friedrich Seifert, Andreas Ertl, Edward Grew, Barb Dutrow, Christian Chopin, Walter Maresch, Wolfgang Müller, André-Mathieu Fransolet, Hans-Peter Schertl, Michael Burchard, Thomas Fockenberger, Konstantin Podlesskii, Dominique Lattard, Klaus-Dieter Grevel, Volker Schenk, Peter Mirwald. PHOTOGRAPH COURTESY OF BARB DUTROW

Walter Maresch led off with a keynote address that emphasized Werner’s early career (Fig. 2). In surveying Werner’s publications from the mid-1950s and 1960s, Walter pointed out that his exceptional talent for communication, his exceptional scientific insight, and his impressive depth of knowledge were clearly evident from the very beginning. Initially focusing on field geology, classical petrography, and structural geology, Werner quickly and successfully added experimental petrology to his arsenal after his stay at the Geophysical Laboratory. This efficacious interplay of methods is beautifully demonstrated in his cordierite “trilogy” of 1964–1966 (Fig. 3), in which the concept of “geospeedometry” already played a role. Werner was a missionary for the experimental and phase petrological approach as applied to subjects ranging from crystal chemistry to geodynamics and the structure of the Earth. Despite his



Fig. 2 – The young Werner Schreyer, striding purposefully towards a magnificent international career

many scientific papers, he still found time to write many compelling popular science articles. Werner combined all these talents and fulfilled his vision of modern petrology with the successful establishment of the Mineralogy and Petrology Working Group in Bochum, which then went on to international renown.

Barb Dutrow followed with her keynote address, which focused on Werner’s activities in the United States and his interactions with American scientists. Werner fostered international collaboration and exchange: a large number of young scientists were fortunate to have had Werner as their mentor while they worked at the Institute of Mineralogy, Ruhr University, as Humboldt Fellows. Barb drew attention to other sides of Werner’s approach to science, for example, his aggressive collecting to build up one of the finest petrologic collections in a university. This meant that on field trips students were required to show their collected specimens to Werner, who would decide which ones should be added to the institute’s collection. Barb admitted she had kept hers!



Fig. 3 – Werner Schreyer’s cordierite “trilogy”



Fig. 4 – Werner Schreyer at the Tourmaline 1997 conference, Nové Město na Moravě, Czech Republic. Werner is engaged in an animated discussion with Pavel Povondra (seated) about the piece of Czech tourmaline in his hand. PHOTOGRAPH COURTESY OF BARB DUTROW

Session participants covered topics that spanned Werner’s own intellectual breadth, including his core interests in the mineral cordierite, phase petrology in the  $MgO-Al_2O_3-SiO_2-H_2O$  (MASH) system with particular emphasis on mineral assemblages equivalent compositionally to cordierite, ultrahigh-pressure minerals and assemblages, tourmaline (Fig. 4) and other borosilicates in the model system MABSH, as well as his early geologic interest in the Danube Fault, the subject of a talk by W. Siebel. Werner and his colleagues were among the first to synthesize several compounds first known as minerals, such as tourmaline with excess boron and boromuscovite, as summarized by Andreas Ertl: high pressures favor incorporation of boron at tetrahedral sites. In other cases, some of the compounds that Werner synthesized and suspected could form in nature were indeed later discovered as minerals; for example, Ed Grew reported the discovery of a new natural analogue of “boron-mullite,” one of a family of compounds that Werner had synthesized in experiments with the MABSH system.

The editors of the *European Journal of Mineralogy* are planning a special issue in honor of Werner, which is scheduled for publication in 2008.

**Walter Maresch, Edward Grew and Friedrich Seifert**