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Preface

Biography of Professor Horst Hennig

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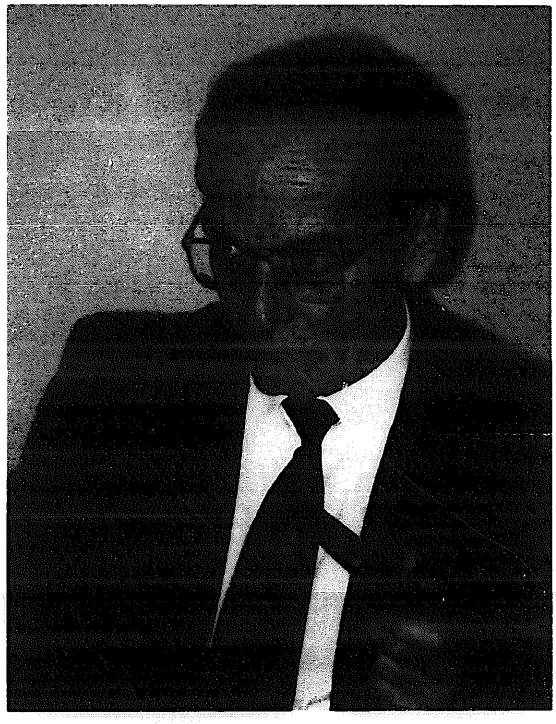

Professor Horst Hennig was born on 6 June 1937 in Leipzig, Germany. After school in Leipzig, he entered Leipzig University as a chemistry student in 1955. His diploma thesis (1960) dealt with the chemistry of ferrocene derivatives [1]. During the next four years, his research focused on the coordination chemistry of ferrocene- and benzene-substituted 1,3-diketones. In 1964, he obtained his Ph.D. (Dr. rer. nat.) degree with L. Wolf. As a senior assistant and Assistant Professor (Dozent, 1969), respectively, he started teaching chemistry for students of medicine, an activity which he continued until today. From this time originates the textbook "Chemie für Mediziner" [2] which is very popular among the students of medicine up to now. In 1971 he habilitated at Leipzig University with a thesis "Coordination Chemistry of NH-acidic ligands".

Horst Hennig was appointed to a chair in Inorganic Chemistry (Ordentlicher Professor) at Leipzig University in 1977. In 1985 he was elected as a member of the Saxonian Academy of Sciences and in 1988 he became a member of the Academy of Sciences of the GDR. From 1987 to 1990, he was the Rector of Leipzig University.

The beginning of Inorganic Photochemistry in Leipzig dates from approximately 1972. At this time, Weißenfels et al. discovered that the dimerization of heterocyclic aldehydes to enediols is catalyzed by cyanide ions [3]. Since these enediols are both reducing species and potential chelating ligands, the idea was born to apply this reaction in an unconventional information recording system. Thus, the need for an imagewise formation of free cyanide ions was indicated. It was obvious that cyanometallates were promising candidates for the photochemical formation of free cyanide ions, but these compounds are photosensitive only in the short-wavelength spectral region. Therefore, the next task was the spectral sensitization of such coordination

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compounds. Both photocatalysis and spectral sensitization became the central themes of Professor Hennig's scientific work for the next decades [4–6].

In the beginning, the Leipzig photochemistry group was a rather loose connection of inorganic, organic, physical, theoretical and analytical chemists which met each Monday noon to discuss new developments in the field of photochemistry. Later, the group became an independent reseach group of the Institute of Inorganic Chemistry. Over the years, however, the group never lost it's interdisciplinary character and the Monday noon discussions became a good tradition.

It turned out rapidly, that photocatalysis induced by light-sensitive coordination compounds became a field of considerable interest with respect to both basic and applied research. In the following years the scientific interest of Hennig's group extended to the photochemistry of Werner-type complexes of cobalt [7], iron [8] and copper [9] as well as chromic acid esters [10]. The ESR spin trapping method rendered a powerful tool for investigation of photochemical reaction mechanisms [11]. In the eighties, more complex systems like mixed-valence compounds [12–14] and ion pairs [15–20] were studied both spectroscopically and photochemically for the exploration of the long-wavelength border for spectral sensitization. Also the theoretical studies were intensified [21–23] in order to understand better the spectroscopic behaviour and the photochemical reactivity of coordination compounds. Together with H. Kisch, Horst Hennig initiated a discussion "What does photocatalysis mean?" [24]. As a result, the misunderstandings in the photochemical community about the terms "photoassisted reaction, photoinduced catalytic reaction, sensitized photoreaction" and "catalyzed photoreaction" could have been mainly removed [5,6]. At the same time, Hennig and his co-workers started their work to put photocatalysis in cycles. It has been shown that the oxygenation of terpenes [25] and the cyclotrimerization of alkines [26] could be photo-assisted and catalyzed by metalloporphyrins and azido complexes, respectively. The studies on these rather complex systems have been continued in the nineties [27–30] using the up-to-date spectroscopic and photochemical facilities now accessable in Leipzig as well as in cooperation with the Mülheim and Amsterdam photochemical groups. Horst Hennig's recent scientific interest focuses on the photocatalytic hydrogen evolution from organic substrates [31,32], the photoinduced catalytic oxidation of alcohols and the application of semiconductor particles for inorganic and organometallic syntheses. Furthermore, the application of both photochemical and sonochemical methods to the decontamination of waste-water and soil is under study presently in his laboratory.

Horst Hennig is the author or coauthor of about 290 publications. Together with D. Rehorek he wrote a textbook "Photochemical and Photocatalytic Reactions of Coordination Compounds" [33] which was the first one on this topic in German. As one of the initiators and organizers of the Symposia on Photochemical and Thermal Reactions of Coordination Compounds (SOPTROCC), the East-European precursor of the ISPPCC series, as a member of the organizing committees of two IUPAC Symposia on Photochemistry and a member of the editorial board of EPA Newsletter he always promoted scientific contacts between East and West, even under complicated political conditions. He strongly acted in favour of the constitution of the GDR national EPA group which was the first one from Eastern Europe [34].

Professor Horst Hennig is highly regarded as a fascinating speaker and a patient listener. His enthusiasm for photochemistry is infectious and his scientific credo is best expressed in the words of the Nobel-prize winner Wilhelm Ostwald [35]: "Life is like a water mill: The effect produced by the falling water is achieved by the rays of sun. Without the sun, the wheel of life cannot be kept going. But we have to investigate more closely which circumstances and laws of nature bring about this remarkable transformation of the sunrays into food and warmth".

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