

Chemical Reviews

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New Perspectives in Coordination Chemistry: Introduction

The year 1993 is viewed by many as the 100th anniversary of coordination chemistry, as marked from Alfred Werner's seminal article "Beitrag zur Konstitution anorganischer Verbindungen" that appeared in *Zeitschrift fuer Anorganische Chemie* (1893, 3, 267-330). In the intervening century, this discipline has metamorphized from the province of inorganic chemists to the domain of a broad constituency of researchers, ranging from biochemists to materials scientists. The vigor and ongoing evolution of this subject is richly documented by the 16 reviews in this issue, each of which offers "New Perspectives in Coordination Chemistry".

An article by D. Busch introduces the issue and gives a thought-provoking analysis of the growth of coordination chemistry, as well as predictions for future developments. The materials interface is represented in reviews by Maitlis and Hudson, on metal-containing liquid crystals (metallomesogens), and Hampden-Smith, Chandler, and Roger, on solution routes to Perovskite-phase mixed-metal oxides. A fascinating solid-state phenomenon, bond-stretch isomerism, is critically examined by Parkin.

Two articles emphasize types of coordination compounds that were unknown a decade ago. Heinekey and Oldham detail the explosive growth of research on dihydrogen complexes, whereas Strauss describes new generations of weakly coordinating anionic ligands that promise to have a variety of useful applications. Trofimenko updates his earlier reviews of the versatile poly(pyrazolyl)borate or "scorpionate" ligands, which coordination chemists continue to "mutate", enlarging their chelate repertoire.

Other novel and important classes of coordination compounds are treated by Dehnicke and Strähle (*N*-halogenoimido complexes), Sutton (organometallic diazo or MNN-bonded compounds), and Fehlhammer and Fritz (CNH and CN complexes). Ohtaki and Radnai review some of the most fundamental aspects of coordination chemistry, the structures and dynamic properties of hydrated ions. The alkaline earth metals are represented in the contribution by Hanusa, which focuses upon ligand effects upon structure and reactivity.

Metal cluster compounds feature prominently in two articles. Kolis and Roof review the architecturally rich polynuclear coordination chemistry of selenide and telluride ligands, whereas Hosmane and Saxena detail the synthesis and reactivity of unusual carboranes that contain d- and f-block metals. A mechanistically bimetallic process—intermetal atom transfer—provides the focus of the article by Woo. On the biological front, Jurisson, Berning, Jia, and Ma document the rapid growth of coordination compounds in nuclear medicine.

Although a single journal issue can only give a greatly abridged treatment of coordination chemistry, the 16 articles that follow provide a broad and enriching collage of "new perspectives". Assuredly, the second century of coordination chemistry will be at least as rich, diverse, and exciting as the first. Single copies of this issue may be purchased, as detailed on the masthead page.

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