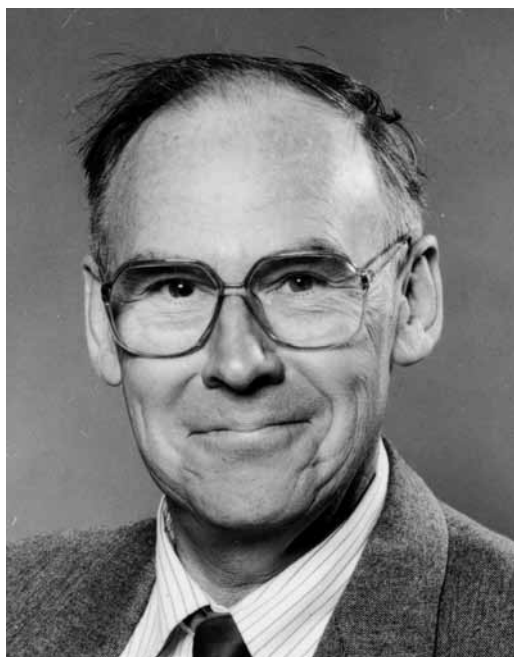


Foreword



Professor Martin Bennet

The Research School of Chemistry, set up by Professors Birch and Craig in 1967 at The Australian National University, has long been regarded as a centre of excellence in all fields of chemistry. In organometallic chemistry specifically, the School's high reputation is due mainly to the person to whom this special volume is dedicated — Professor Martin Bennett.

Martin, who is retiring at the end of the year, can be regarded as a true pioneer in his field, merging the influences of two illustrious, and often rival, inorganic chemists of the second part of the 20th Century: Geoffrey Wilkinson and Ron Nyholm. Martin worked with Wilkinson at the University of London, where he was involved in the preparation of the first seven-membered ring complex $[\text{Mo}(\eta\text{-C}_7\text{H}_8)(\text{CO})_3]$. He completed his Ph.D. in 1960 and, from there, went to the University of South California for post-doctoral experience with Professor A.W. Adamson. In 1961, he returned to the United Kingdom to take up a Turner and Newall Fellowship at the University College London, and it is

there that he met Nyholm. In 1963, he accepted a position as Lecturer at the same institution, where he remained for 4 years until he heard the news of this new centre being opened at the ANU. After having successfully applied for a position as Fellow, he moved down-under in 1967 and has remained there ever since, becoming Professorial Fellow in 1979 and finally Professor in 1991.

Martin's work was soon noticed and he received many awards and honours, including the H.G. Smith Medal of the Royal Australian Chemical Institute in 1977, the Nyholm Medal and Lectureship of the Royal Society of Chemistry in 1991, the Max-Planck Society Award in 1994, jointly with Professor H. Werner from the University of Würzburg, and the list goes on. He was elected Fellow of the Australian Academy of Science in 1980, Fellow of the Royal Society of London in 1995, and was admitted to Fellowship of the Royal Society of Chemistry in 1997.

Martin's research interests are concerned mainly with the organometallic chemistry of the late transition metals and he is well known for his preparations of cyclometallated complexes of rhodium, iridium, and more recently platinum and gold. These include the preparation of $[\text{Ir}(\text{Cl})(\text{H})(o\text{-C}_6\text{H}_4\text{PPh}_2)(\text{PPh}_3)_2]$, which is the first *ortho*-metallated complex formed by hydride abstraction, and the first dinuclear aryl cyclometallated platinum complex $[\text{Pt}_2\{\text{C}_6\text{H}_4\text{P}(\text{Ph})\text{CH}_2\text{CH}_2\text{PPh}_2\}_2]$. Another important aspect of his work has been the stabilisation of short-lived cycloalkynes and benzynes by coordination of their triple bonds to nickel(0), palladium(0) or platinum(0), and the study of their insertion reactions with unsaturated molecules such as CO_2 , alkenes and alkynes. Some unexpected results from the reactions of cyclohexyne complexes of platinum(0) with methanol prompted important studies on hydroxoplatinum(II) complexes, which provide models for the insertion of alkenes and alkynes into metal-oxygen bonds and are possible catalysts for the addition of water to alkenes and alkynes.

However, if Martin can be said to have a favourite metal, then it is undoubtedly ruthenium. He developed

an extensive chemistry of arene complexes of ruthenium, which proved to be useful precursors to a variety of hydrocarbon complexes. Among these studies, we can find the first demonstration of a ligand-induced η^6 -to η^4 -transformation of coordinated naphthalene, and the development of powerful catalytic precursors for the hydrogenation and isomerization of olefins that are now being used routinely by organic chemists. More recently, the discovery of the labile complexes [*cis*-Ru^{II}(acac)₂(η^2 -alkene)₂] has provided an entry into numerous bis(acetylacetonato) complexes of ruthenium(II) and (III). These useful precursors have allowed the preparation and characterisation of the first paramagnetic alkene and alkyne complexes of ruthenium(III).

The Research School of Chemistry has always been a very special place, not only because of the high quality of its research and the number of publications it produced, but also because of its friendly and collegial atmosphere. When I first arrived to work in his group, Martin told me that chemistry in Australia can be a bit

slower than in the rest of the world, but I discovered a very busy place where even the tearoom can be the centre of big discoveries. This is probably another reason why the School has attracted so many visitors over the years, many of them turning it into a regular pilgrimage. Colleagues from all around the world have passed through the School to see Martin Bennett, and it is not unusual to find famous professors rediscovering the joy of benchwork in one of his labs. Everybody agrees that such a visit is an unforgettable experience. This has made my task of organising this special volume very easy, as the response I received to the idea was overwhelming. We all take the opportunity to thank Martin for all that he has done and to wish him a very happy retirement. He can be confident that his chemistry will continue, as he has inspired many researchers around the world to carry on his work.

Eric Wenger
Canberra, June 2000