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Introductory Remarks

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Introductory remarks

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It is more than 30 years since the foundation of organo-transition metal chemistry and its useful applications. The names of Nobel Laureates E. O. Fischer and G. Wilkinson, K. Ziegler and G. Natta are associated with the earliest years of the development of this field.

Indeed, the early chemistry of hydrocarbon derivatives of transition metals was largely developed by inorganic chemists whose primary interest focused on the transition metal chemistry rather than on transformations of organic compounds. Apart from a few, academic organic chemists were rather slow to appreciate the potential of organo-transition metal compounds as synthetic intermediates.

What were the reasons for this delay? It was perhaps because in the early days of the development of organo-transition metal chemistry it was difficult to perceive pattern and order in the abundant complexity of new structural types and reactivities. Indeed, in the early days the fragmentary knowledge and understanding mitigated against much pretence of deeply argued strategies for research. Also, new techniques such as the need to work under an inert atmosphere with a vacuum/nitrogen line were unfamiliar to organic chemists.

However, all this has changed and for over 10 years there has been increasing interest in the use of transition metal compounds in organic synthesis and especially in catalytic reactions.

The contributions to this Discussion Meeting reflect a strong emphasis on organic derivatives of the d-block transition metals and their applications to fine chemical synthesis and most of the speakers are organic chemists in their background and interests.

At present, there are already industrial processes for the synthesis of fine chemicals by using transition metal compounds and I expect that this Discussion Meeting will point towards future developments of very considerable potential. It is already certain that highly selective reactions catalysed by transition metals will have an immense impact on the development of synthetic organic chemistry.