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Foreword

Organometallic Chemistry in Portugal

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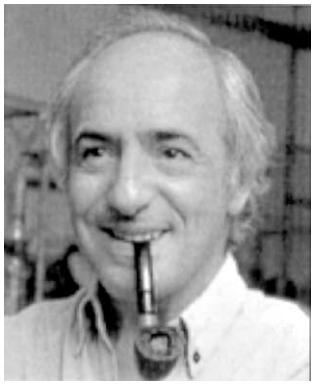

A bird's eye view of chemistry in Portugal will certainly reveal mountains and valleys in terms of scientific infrastructure, productivity and impact. A particular obvious feature in the scientific landscape is transition metal organometallic chemistry. This outcrop can be attributed primarily to Professor Alberto Romão Dias, whose 60th birthday we celebrate on September 24, 2001. A closer inspection of the terrain shows that his contribution to the development of the landscape of chemistry in Portugal is more profound than the establishment of his own field.

In the mid-1960s, research in the Portuguese universities was a minor activity involving only a few academicians. As in the words of a popular song of the time "the times they were a'changing", some young academicians were sent abroad to well-known research active universities to obtain Ph.D. degrees in subjects of their choice. Alberto Romão Dias, then a young teaching assistant in analytical chemistry at Instituto Superior Técnico (IST), Lisbon, was one of the first to go to the Inorganic Chemistry Laboratory of the University of Oxford, UK, in the Fall of 1966. What he had in mind for a D.Phil. Thesis was soon overshadowed by the glamour associated with the spectacular growth of transition metal organometallic chemistry, as practiced by one of its front runners—Malcolm Green. Returning to IST from his scientific pilgrimage with a D.Phil. degree on "The Metal–Ligand Bond Properties of Some Organo-Transition Metal Compounds" he set out to create the first organometallic chemistry research group in Portugal. The physical resources for the job were scarce—four walls with a hot-air driven fume hood and one hammer. However, his enthusiasm was irrepressible and despite a 3 year break (1971–1974) because of compulsory military service, the group developed against all odds. Slowly, but steadily, the equipment was gathered, the infrastructure was created and the fragile seed sprouted with scientific engagement and enthusiasm blossoming amidst a fast growing number of curious young students. Many, like us, who lived in those days and watched all the passion and effort put into this enterprise by Romão Dias, as he is known over here, will always cherish the memory of having witnessed one of the most creative and exciting periods of university and research life in Portugal.

The molecules mentioned in Romão Dias' Thesis as "some organo-transition metal compounds" were actually thiolato-molybdenocene and tungstenocene derivatives, which were used as ligands, pioneering the concept of organometallic ligands. Naturally, Group 6

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metallocene chemistry carried on as the leitmotiv of his chemistry throughout the 1970s and early 1980s. He always emphasised the importance of synthetic chemistry in a country where analytical and physical chemistry were much more preponderant. Nevertheless, his vision of organometallic chemistry went far beyond synthesis. Following the constant entry of organometallic chemistry into new areas, he shaped his group in order to catch up with some of the more important developments. In the late 1970s he launched, together with another of the early 'science pilgrims', a research line on thermochemistry which later on became one of the most prominent research areas in Portuguese chemistry. He also explored such diverse fields as metal vapour synthesis and photochemistry of organometallic compounds. He strongly supported the introduction in Portugal of X-ray Crystallography for small molecules and involved a sizeable part of his group in this area, and thereby providing a service to many other synthetic chemists. Theoretical organometallic chemistry was another of the main areas he introduced. Homogenous catalysis, an unavoidable objective in any organometallic chemistry group, only came later, with the second generation of his Ph.D. students and the second wave of 'foreign input' which he introduced for this purpose. The field chosen was olefin polymerisation and the foreign pool of supporters include: Igor Tkatchenko, Philippe Theyssié, Hubert Mimoun, Peter Tait, Marvin Rausch, J.C.W. Chien, Peter Jolly, and Jan Teuben. Still another priceless contribution stemmed from his open-hearted, cost-free sheltering of several starting research groups which lacked the laboratory facilities in their own 'new universities'. This action extended beyond organometallic chemistry and covered other fields. All this activity around his group is reflected in the papers published in this special issue. Most (if not all) of the Portuguese contributors felt, as chemists, the influence of Romão Dias; some still carry out their research work in close association with him.

However, many other deeds made Romão Dias a *pivot* for the reshaping of chemistry in Portugal. In this respect, his most important achievement was the revival (better called resurrection) of the Portuguese Chemical Society, where he served as Secretary-General (1978–1988) and President (1989–1991). This task brought a new sense of community to the Portuguese chemists in all branches and fields acquainting them with each other, opening avenues for collaboration and promoting the image of a live and active field of science.

Also decisive was his struggle for the implementation of post-graduate studies at the MSc level. At that time (1979) such studies were novel in a country where regular post-graduate programmes were still nonexistent. The high level of competence of the almost exclusively foreign teaching staff he employed for these courses at IST left a deep imprint of quality. This was decisive in capturing the interest of the second generation of young researchers who are now practising in the areas of inorganic and organometallic chemistry as well as in catalysis.

Last, but not the least, his freshmen course of Inorganic Chemistry at IST, which is being given almost without interruption since 1974 (he kept lecturing even when he was Secretary of State for Higher Education, in 1982–1983) left a deep impression in the memories of former students. He was responsible for sparking the enthusiasm of many to participate in chemistry research later on. His very particular sense of humour, his untamed independence, and his constant struggle in favour of a better university made him a role model in the Portuguese scientific community.

We therefore take this opportunity to thank Alberto Romão Dias for having initiated all the chemical activity briefly described and assisting in establishing organometallic chemistry, wishing him a still successful and plentiful life as professor and researcher in the future years.

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