

Introduction: biographical note

F. Gordon A. Stone was born in Exeter in 1925, but for most of his early years he lived with his parents in East Kent. He became a student at Christ's College Cambridge in 1945, and it is amusing to record that his entry to that University came about by accident. He had initially applied to study chemistry at London University (King's and Imperial Colleges) but his chemistry grades from school were not considered adequate by these Institutions. Fortunately, Cambridge was more perspicacious in their admissions policy, and when he graduated in 1948, he ranked among the best students of his year. After graduate research with H.J. Emeléus, leading to a Ph.D. degree in 1951, he spent a much appreciated two year period as a Fulbright Scholar and postdoctoral fellow with Anton Burg at the University of Southern California. This was followed by an eight year period (1954–1962) at Harvard, initially as a postdoctoral assistant with E.G. Rochow, and subsequently on the teaching staff as an instructor and later as an assistant professor.

In 1962 Gordon Stone returned to Britain to lead the inorganic chemistry group at Queen Mary College (London University). A period of rapid expansion in the British university system was then underway, and by the middle of 1963 he had accepted an offer to become Bristol University's first professor of inorganic chemistry. During the long period he has been at Bristol he has personally built up and led one of the most distinguished research groups in organometallic chemistry; while at the same time he has encouraged and provided the necessary environment for other groups to grow and flourish independently of his own. As evidence of his leadership, five inorganic chemists from Bristol have been promoted to Chairs at other universities, including the author of this note, while others continue at Bristol establishing distinguished reputations in their own right.

It is a daunting task to summarise Gordon Stone's contributions to research, described in over 600 primary journal articles and some 50 reviews. During the rapid expansion of organotransition metal chemistry, which occurred in the early years following the discovery of ferrocene, he and his coworkers made many seminal discoveries. These included the first synthesis of a neutral metal sandwich complex having a planar $\eta^7\text{-C}_7\text{H}_7$ ring, the first demonstration that an allyl group can undergo interconversion between sigma and η^3 -bonding modes at a metal centre, and some of the earliest syntheses which showed that low-valent transition metal species could insert into carbon–halogen bonds. In the period 1960–1970 came the development of fluorocarbon-metal chemistry, a period in which many model complexes were prepared, the existence of which increased our understanding of oxidative-addition and reductive-elimination processes, as well as metallacycle formation. In parallel, a low pressure synthesis of $\text{Ru}_3(\text{CO})_{12}$ was discovered making this reagent accessible for use as a precursor to many complexes, including species

having bonds between ruthenium and silicon, germanium, or tin. These in turn provided a pathway to novel compounds in which di- and tri-ruthenium fragments are ligated by pentalene. Noteworthy among these was $\text{Ru}_3(\text{CO})_8(\eta^8\text{-C}_8\text{H}_6)$, the dynamic NMR properties of which revealed the first example of migration of a hydrocarbon ligand over both the edges and the face of a metal cluster.

In more recent times from Gordon Stone's laboratory has come the discovery of tris(ethylene)platinum, the high reactivity of which has been exploited in many ways so that this molecule serves as a starting point in organoplatinum chemistry comparable with nickel carbonyl in nickel chemistry. The researches on the alkene-platinum compounds led to the recognition that molecules containing multiple bonds between carbon and transition elements can, in appropriate circumstances, coordinate to metal-ligand fragments in a manner akin to alkenes or alkynes. Employing this principle, and using metal-carbene and carbyne complexes, ingenious and elegant syntheses have been devised leading to the isolation and characterisation of various unprecedented and fascinating chain and cyclic species, thereby providing the first procedure for the systematic construction of mixed-metal cluster compounds.

Gordon Stone has received many honours. He is a Fellow of the Royal Society, and he has served a period as a vice-president and a member of the Council. In 1989 he was awarded the Society's Davy Medal. He has also received several awards from the Royal Society of Chemistry, including the Ludwig Mond and the Sir Edward Frankland Lectureships. This year he has been given the prestigious Longstaff Medal which is awarded every three years to the member of the RSC who is deemed to have done the most to promote the science of chemistry by research. In 1985 he received the American Chemical Society award for research in inorganic chemistry. He has been honoured by visiting professorships at universities in Australia and in the U.S.A., and by being invited to give named lectures throughout the world. His greatest pleasure, however, is the knowledge that among his circa 180 ex-coworkers, approximately 70 hold tenured academic posts on five continents.

In addition to his researches, Gordon Stone has devoted much of his time in the service of the national and international chemical communities. He was chairman of the IVth International Conference on Organometallic Chemistry held in Bristol in 1969, and also the First International Conference on the Platinum Metals in 1981. For many years he was a member of the advisory committee for the ICOMC meetings. He has been President of the Inorganic Chemistry (Dalton) Division of the Royal Society of Chemistry, and he has served on many Committees of the U.K. Science and Engineering Research Council. In 1988 he was called upon to chair the University Grants Committee review of chemistry in the British university system, and the report and conclusions of the Review Panel will influence planning for some time to come.

Gordon Stone was a co-editor of *Comprehensive Organometallic Chemistry*, and is a co-editor of *Advances in Organometallic Chemistry* and the Royal Society of Chemistry Annual Specialist Periodical Reports—*Organometallic Chemistry*.

It brings great pleasure to his many friends and admirers that this issue of the *Journal of Organometallic Chemistry* is dedicated to Gordon Stone.