

Volume 31
Number 15
July 22, 1992

Inorganic Chemistry

© Copyright 1992 by the American Chemical Society



JOHN C. BAILAR, JR.
1904–1991

IN MEMORIAM

It is with regret that we note the passing on October 17, 1991, of one of founders of modern inorganic chemistry, John Christian Bailar, Jr. John Bailar symbolized all that is best in a university professor. His contributions to teaching, research, and service to the profession were recognized by the American Chemical Society in 1964 when John was awarded the Society's highest honor, the Priestley Medal, and in 1972 when he received the

American Chemical Society Award for Distinguished Service in the Advancement of Inorganic Chemistry. Upon being awarded the Priestley Medal, John was described as "a man of unusual talents who has made outstanding contributions to all aspects of chemistry". John served as President of the American Chemical Society in 1959 and was in large part responsible for the founding of the journal *Inorganic Chemistry* in 1962. In every respect,

John was a valued friend, colleague, scientist, and teacher.

John C. Bailar, Jr., was born in Golden, Colorado, on May 27, 1904 of John Christian Bailar and Rachel Ella Work; the elder Bailar studied under Professor Charles S. Palmer and was himself a professor of chemistry at the Colorado School of Mines. As a child, John frequently accompanied his father to his combination office-laboratory, where he was allowed to help his father carry out simple laboratory operations. In 1921, John enrolled at the University of Colorado in Boulder and went on to receive his B.A. magna cum laude in chemistry in 1924 and his M.A. degree in 1925 under the inorganic chemist Horace B. Van Valkenburgh. John's Masters Thesis, entitled "Nitrogen Tetrasulfide and Nitrogen Selenide: Preparation, Molecular Weight, and Some Properties", formed the basis of his first published paper and presaged his eventual impact on the area of inorganic chemistry.

John traveled in the fall of 1925 to the University of Michigan where he studied under the organic chemist Moses Gomberg. Gomberg was best known for his research on free radicals, and John's 1928 Ph.D. Thesis, "Studies in the Halogen Substituted Pinacols, and the Possible Formation of Ketyl Radicals, $R_2C-OMgI$ ", dealt with the synthesis of new pinacols and studies of their dissociation to ketyl radicals in solution and their relative rearrangement rates to the corresponding pinacolones.

John Bailar joined the staff of the University of Illinois in 1928 and remained there for the next 63 years. Upon his arrival at Illinois, John counted himself an organic chemist, but his teaching duties were in the freshman courses which in those days were devoted almost entirely to descriptive inorganic chemistry. Stimulated by a freshman student's misreading of the formula for antimony oxychloride, $SbOCl$, as "antimony hypochlorite", John became interested in the question of whether inorganic isomers exist. John's search through the inorganic literature led him to the coordination compounds and the many examples of different kinds of isomers they exhibit. From then on, John's research focussed on elucidating the stereochemical consequences of the chemical reactions of coordination compounds.

One of John's first and most important discoveries was of an inorganic analog at an octahedral cobalt center of the well-known Walden inversion in organic chemistry. This publication, along with those to follow from the Bailar laboratories, can be regarded as initiating the renaissance in inorganic chemistry in the late 1930s and 1940s in the United States. John's studies of the mechanisms of the reactions of coordination compounds both in solution and in the crystalline state, the selective catalytic hydrogenation of polyunsaturated fats to mono- and dienes by platinum phosphine complexes, the synthesis of new inorganic polymers, and his landmark paper with E. J. Corey on stereospecific effects in complex ions are testaments to John's breadth of interest and imagination, but illustrate only some of the topics he explored over his career. In all, John published over 200 scientific papers, nearly 40 other articles on chemical education and the chemical profession, and 11 textbooks and monographs. Among the latter were Volume 4 of *Inorganic Synthesis* and an outstanding volume in the ACS Monograph series, *Chemistry of Coordination Compounds*.

For these and many other creative contributions to coordination chemistry, Professor Bailar received the Frank Dwyer Medal of the Chemical Society of New South Wales in 1965, the Alfred Werner Gold Medal of the Swiss Chemical Society in 1966, the Heyrovsky Medal of the Czechoslovakian Academy of Science in 1978, the Ferst Award of Sigma Xi in 1983, the Chernyaev Jubilee Medal of the Kurnakov Institute of Moscow in 1989, and many other honors. The Werner Gold Medal was made for the occasion of the Werner Centennial, and the fact that John received this unique honor clearly demonstrates the esteem in which he was held by coordination chemists throughout the world.

John's accomplishments in chemical education are almost impossible to summarize. He was a teacher of the highest level and guided many thousands of students through general chemistry; his lectures were models of clarity, organization, imaginativeness, and inspiration. No one will ever know how many hours taken out of how many busy days were spent in helping students, but many men and women owe their careers to the help, advice, and sympathetic understanding given by John Bailar. The 90 Ph.D. students who worked under his direction found him to be an enthusiastic and thought-provoking mentor. In recognition of his attainments as a teacher, John received the American Chemical Society Award in Chemical Education in 1961 and the Award in the Teaching of Chemistry sponsored by the Manufacturing Chemist's Association in 1968. Professor Bailar was active in the teaching affairs of the American Chemical Society; for example, he served as Chairman of the Division of Chemical Education and was a member of the Committee on Professional Training.

Professor Bailar's contributions to the chemical profession on the national scene included service to the American Chemical Society as Chairman of the Division of Inorganic and Physical Chemistry, Chairman of the Division of Inorganic Chemistry, and President of the Society. He was involved in international activities in his role as treasurer and member of the executive committee of the IUPAC and was a leading spokesman for the International Conferences on Coordination Chemistry. John Bailar led the way in bringing American inorganic chemists into closer contact with those from other countries.

In 1962, John became the first recipient of the John R. Kuebler Award of Alpha Chi Sigma, in recognition of his distinguished service to the fraternity and the chemical profession. John continued his close association with the Zeta Chapter of the fraternity at the University of Illinois throughout his life, and unselfishly gave of his time and energies in the same spirit that characterized his relationships with students and colleagues.

The above recitation of accomplishments and recognition, impressive as it is, cannot, however, convey adequately the nature of a man such as John C. Bailar. The famous and successful are seldom so open with others, or so generous with their time and energies. John Bailar was a kind man with a charming sense of humor and an engaging laugh: he knew a million stories and told them all very well. His friends, colleagues, and students are happy for the privilege and experience of having known him.

Gregory S. Girolami