



Oswald Kubaschewski, or more simply “Kuba,” as he was uniformly and affectionately known both to his friends and colleagues, died in Aachen on 27 October 1991 at the age of 79.

Kuba’s career was distinguished in all of its phases and was the more remarkable for the difficulties, both scientific and personal, that he had to face both during the war years and immediately afterwards when he was “invited” to move from the then Kaiser-Wilhelm-Institut in Stuttgart to the National Physical Laboratory in Teddington.

Kuba was born in Berlin in 1912. His associations with illustrious scientists began in 1930 with his chemistry studies in Rostock under Walden and Ulich, which continued in Freiburg under Staudinger, Zintl, von Hevesy, and Noddack. With W. Seith as his supervisor, Kuba completed a Doctor’s thesis in 1935 on the electrolytic transport of carbon in steel and in the same year moved with Seith to the KWI in Stuttgart to work in the institute of Professor Georg Grube. Here, in 1942, he completed a “Habilitation Thesis” on the subject “Energetics of Alloy Formation” and held a post as lecturer in Physical Chemistry at the Technische Hochschule, Stuttgart from 1942 to 1949. It was during these years in Stuttgart that Kuba worked with, and was influenced by, such leading German thermochemists as Roth, Seith, and Weibke, and had opportunity to debate with visiting scientists such as Otto Hahn, Lise Meitner, and Carl Wagner. The basis for Kuba’s lifelong interest in the application of thermodynamic measurements and calculations to metallurgical problems can clearly be traced back to these stimulating, albeit exceptionally difficult, times.

The high quality of the scientific work carried out by Kuba in Stuttgart resulted in his being “invited” by the British Government to accept a position at the National Physical Laboratory in Teddington. As he himself expressed it, “Hungry and thinking of English steaks,” he accepted the offer, but with the condition that his two co-workers in Stuttgart could accompany him to England. The proposed two-year period at NPL, which began in 1947, became 25 years, and in 1949, one of those co-workers, Ortrud von Goldbeck, became his wife.

During the long period at NPL, Kuba was able to concentrate fully on the development and improvement of new experimental methods to provide thermodynamic numbers, which were urgently required for practical purposes, but at that time were out of reach to the available “standard techniques.” He often encouraged young scientists to look for a problem that needed to be solved and then design an appropriate piece of equipment for the investigation. He deplored the reverse tendency, whereby a problem would be “artificially” sought for an available apparatus. At NPL, both the scope and temperature range of calorimetric, vapor pressure, and emf methods were improved under his supervision by a small group of talented co-workers. At the same time, a steady stream of international visitors who had the privilege of working for a short time with Kuba was instructed in the skills of thermodynamic measurements, data evaluation and estimation, and application of thermodynamic calculation methods to the solution of metallurgical problems. The inspiration gained from working with Kuba was invariably complemented by the warm hospitality for which Kuba and Ortrud were renowned.

While remaining true to his slide-rule even after retirement, Kuba was among the first to recognize the importance of the computer in dealing with large quantities of data and in the calculation of phase equilibria in multicomponent systems. The pioneer work that he undertook in data evaluation and in producing self-consistent descriptions of the thermodynamics and phase equilibria in binary alloys found a still larger scope in the computer databank of the Scientific Group Thermodata Europe (SGTE), which he played a major role in establishing, and in the development of CALPHAD, with which he was closely associated, particularly in its earlier years.

Kuba left NPL in June 1973 to take a post as Professor at Aachen. Here, until his retirement in 1980, he was involved with both teaching and research, and, with a number of Doctor students, he continued to develop and improve calorimetric equipment for measurements related mainly to substances important in iron and steel production.

Kuba has some 150 original papers and 7 books to his credit; among these are works on oxidation and diffusion as well as on thermochemistry. The best known of these is undoubtedly *Metallurgi-*

cal Thermochemistry, which first appeared in 1951 and has recently appeared in its 6th edition. The extensive tables of data that this book contains, combined with the detailed information on experimental techniques and estimation methods, have led to its use worldwide in the teaching of applied thermochemistry.

Kuba received many honors during his illustrious career. Honorary Doctor degrees were conferred by the Technical University of Aachen in 1968, Brunel University in 1971, and the University of Grenoble in 1975. The Kroll Medal (1972) and the Hume-Rothery Prize (1980) were awarded to him by the Institute of Metals.

Kuba was a man whom many will remember not only for his scientific contributions, but also for his warm personality, his charm, his humor, and for the fund of stories with which he would fascinate visitors of all ages. Those who were privileged to work with him have also appreciated his fair criticism, his patience, his commitment, and his never-ceasing willingness to help. His ability to cope quietly and calmly with difficult problems and situations was undoubtedly due in no small measure to the stability provided by his happy and successful marriage to Ortrud—herself an eminent scientist who could appreciate the stresses which arose from time to time in Kuba's work and in his working environment.

Shortly before his death, Kuba was asked by a close friend, "Would you like to live your life again?" The answer was prompt and characteristic—"Certainly not, I could never be so lucky a second time!"

With Kuba's passing, an important era in metallurgical thermochemistry has come to an end, but the foundations he has laid will ensure that his chosen field of work will continue to play a major role in future materials development.

In this special issue, examples of Kuba's influence can clearly be detected in the papers contributed by scientists who either had the privilege of working closely with him in various capacities, or benefitted strongly by following the innovative ideas and experimental methods described in Kuba's numerous clearly and concisely written publications.

Philip Spencer