

### On the Occasion of *Jack Dunitz's* 80th Birthday

Unfortunately I was not able to submit an original research paper in time for *Jack Dunitz's* 80th birthday volume. However, I do not want to miss this opportunity to congratulate him on reaching this point in his long and productive career. *Jack* is one of my oldest personal friends and scientific colleagues. He seemed to me to know everything worth knowing about structural chemistry when we met in Oxford in the 1950s, and he could be interested in almost anything else. Happily, that hasn't changed in half a century.

Leslie E. Orgel

### *Jack Dunitz: In Appreciation*

So often these days I find myself engulfed in sadness, writing obituary notices about friends and collaborators who have influenced my and others' scientific development and activities. It is a refreshing and altogether more stimulating matter now to have the opportunity of singing the praises of one who, although in the autumn of his days, is very much alive, full of zeal, vitality, and intellectual curiosity – just as he has been ever since (and probably much earlier) I first met him more than thirty years ago.

It was at *J. M. Robertson's* seventieth birthday Symposium at Glasgow that I saw him in action in September 1970. It had been my good fortune to have lectured a year or so earlier at the Chemical Society Annual Meeting on dislocations in anthracene and their chemical consequences, and *J. C. Speakman*, a colleague of *Robertson* at Glasgow, was in the audience. He thought that *Robertson*, having been the first to determine the structure of crystalline anthracene, would appreciate hearing something about 'defective' anthracene. Of that event I have many lucid memories: the softly spoken, shrewd observations of *Robertson* himself; the angelic (almost ecstatic) evening lecture describing her work given by *Dorothy Hodgkin*; the wit and exuberance of *Ralph Raphael*; the bird-like alertness and incisive comments of *Jim Speakman*; *Derek Barton's* hypercritical (often disdainful) comments on most of the presentations; but, above all, I remember vividly *Jack Dunitz's* contributions because they came from someone who obviously relished and enjoyed his science – someone whose love of chemistry was infectious.

I first grew to appreciate the enormous breadth and depth of his knowledge of chemistry at that meeting; and, through my friendship with him subsequently, I have gained insights also into his wide-ranging cultural tastes (embracing music, philosophy, modern literature, and history), his humanity, his sense of fun and the consummate ease with which he makes new friends and nourishes his links with existing ones.

It is not necessary to expand here on some of the landmark contributions that *Jack Dunitz* has made to chemical science – others are better placed than I am to do so – but we all recognize that our knowledge of structural chemistry has been enormously

enlarged by several of his seminal papers – the structure of ferrocene (1953) and the electronic properties of transition-metal oxides (1957) (each of which he elucidated in collaboration with *Leslie Orgel*); the crystallographic mapping of chemical reaction paths (a topic first introduced by him and his former student *H.-B. Bürgi*); ‘*are ionic solids built of ions?*’, a question he posed (1986) with his colleague *Paul Seiler*; and the elegant re-examination of the solid-state transformation of ammonium cyanate to urea (which he published in 1998 with my former student *Kenneth Harris*). But there are very many more gems in his corpus of over three hundred and fifty papers, including the delightfully titled ‘*Pathways for S<sub>N</sub>2 and S<sub>N</sub>3 Substitution at Sn(IV)*’ (*J. Am. Chem. Soc.* **1981**, *103*, 2971), all of which are a pleasure to peruse.

Partly because he has been in great demand worldwide as a plenary lecturer and visiting professor, partly because of his remarkable versatility as a chemist and crystallographer, partly because of his extensive body of publications, but perhaps, above all, because of his combination of humanity and love of knowledge for its own sake, he has profoundly influenced the growth of chemistry and the intellectual pleasures of an incalculably large number of individuals like me. We regard him as an authoritative friend, a valuable sounding board, and as a wise counselor. Whether one is listening to him hold forth on the sublime music of *Mozart* and *Schubert*, on the merits of *Robertson Davies* as a novelist, on the emergence of the  $\alpha$ -helix in *Pauling*’s hands, or on the contributions of others – always generously described – to their subject, his opinions always prove stimulating and provocative.

As my friendship with him (and his wonderful, compassionate wife *Barbara*) matured, we ‘discovered’ many mutual friends (like *Massimo Simonetta*, *Gerhard Schmidt*, *Mendel Cohen*, *John Kendrew*, *David Phillips*, *Max Perutz*, and *Harry Drickamer*) and this, in turn, led to further connections and animated conversations.

It is because of the personality, decency, and ability of people like *Jack Dunitz* that I feel eternally grateful that I belong to the worldwide academic chemical community. He has enriched our lives beyond words: long may he continue to do so.

**John Meurig Thomas**