George Büchi

August 1,1921 - August 28,1998

The death of George Büchi on August 28, 1998, at the age of 77 deprives organic chemistry of one of its most gifted scientists and engaging personalities. The nearly 200 individuals who worked in his laboratory during his four decades as a faculty member in the Chemistry Department at MIT were the beneficiaries of a relationship which went well beyond that of mentor and student. Throughout his career, the driving force behind George's passion for chemistry was the pursuit of excellence - in all its forms - and the refined sense of aeshetics he imprinted on his students and even some of his colleagues distinguished him as a unique presence among the organic chemists of his time. George was a consummate stylist, he prized elegance above efficiency, and he leaves a body of work in the chemical literature which is an enduring reminder that research is a truly creative enterprise. In this respect, George's approach to chemistry, and particularly to synthesis, was closely aligned with the best of his chemical contemporaries, especially R. B. Woodward whom he admired immensely.

George Büchi was born in Baden, Switzerland, the son of and engineer who had spent a brief period in New York City installing the first steam-turbines at Hell's Gate. After receiving his Diploma in Chemical Engineering from ETH at the end of World War II, George continued his studies at ETH under Ruzicka, earning his doctorate in 1947. He then moved to the University of Chicago where he worked with Morris Kharasch as Firestone Postdoctoral Fellow. After three years in the U.S., the prospect of returning to an academic position in Switzerland seemed unappealing, and when an Assistant Professorship at MIT was offered, George acted promptly. His independent career blossomed immediately with simultaneous excursions into several areas of organic photochemistry. Indeed, the renaissance which took place in this field during the fifties can be traced in large measure to Büchi's seminal contributions. Yet, in spite of the discovery of an important photochemical reaction that now bears his name, George became disenchanted with photochemistry because, to quote from an interview he gave, ". . . useful applications were not forthcoming, and because the course of the transformations could rarely be predicted, thus robbing the investigator of the pleasure derived from designing new reactions."

However, it was not new reactions but rather the structural elucidation of new natural products that fascinated George Büchi for the next decade. Squiterpenes-patchoulol, maaliol, aromadendrene, valerianic acid, calarene, and copaene-and the alkaloids such as uleine, flavorcarpine, and (in association with Karl Wiesner) aconitine, all fell to his remarkable, intuitive insights into molecular structure. George had an extraordinary ability to see structural details invisible to lesser minds, and the graduate course he taught for many years on this subject at MIT was a classic. Those of us who took it will always remember the rigor and the sheer force of analytical reasoning that he brought to bear on the subject. The high point of this phase of George's career was undoubtedly the structure determination of aflatoxin B_1, a project initiated in 1963 with Gerald Wogan at MTT, which led to a long and fruitful research collaboration. This period witnessed the structural elucidation of some of the most complex mycotoxins known, including the rubratoxins, tryptoquivalines, and malformin C. George was at the forefront of all these ventures, and his laboratory was surely one of the world's most exciting research venues of the time. In all, the structures of some 55 natural products were correctly assigned as the result of research in George's group, most with spectroscopic tools that today would be regarded as primitive indeed.

The third and in many ways most creative phase of George Büchi's career had its roots in his doctoral work at ETH, where he had undertaken the synthesis of degradation products of certain triterpenes. Synthetic studies on natural products has always flourished in George's laboratory at MIT, but with his growing interest in complex alkaloid came the opportunity to exercise his talents in this rapidly developing field. George's syntheses of the iboga alkaloids vindoline and catharanthine are still considered landmarks in the field; as the citation for his Killian Award at MTT states, "His syntheses have been consistently notable for economy, elegance, and originality and have the style that characterizes today's organic synthesis." George's modesty would have led him to demur, but there is not doubt that this acclamation captures the essence of his approach to synthesis.

George, in fact, attached little significance to accolades. Even though he was the first recipient of the Ruzicka Prize of the Swiss Chemical Society, received both the Fritzche Award and the Award for Creative Work in Synthetic Organic Chemistry from the American Chemical Society, and was elected to the National Academy at the relatively young age of 44, it was the intellectual challenge of a chemical problem that truly excited him. For George, the satisfaction of a completed total synthesis for outweighed the gratification that honors could bestow.

George's scientific activities encompassed a variety of roles outside the purely academic domain, including a term of the Board of Editors of Organic Syntheses (he was Editor-in-Chief of Volume 56). During his term on the Board, he checked 44 preps submitted to Organic Syntheses-a record that still stands. For many years, he was a consultant to Firmenich SA in Geneva, and through his association with Fermenich, a number of commercially important fragrances such as muscone, methyl jasmonate, damascenes, and khusirnone were obtained by synthesis for the first time. He was also a long-time consultant for Hoffmann-LaRoche, and he leaves many friends in Nutley who remember his wise counsel as well as he encyclopedic knowledge of the chemical literature.

Throughout his life, George was an avid outdoorsman who traveled to many parts of the world in order to indulge his love of hunting and fishing. He often returned with substantial trophies to be hung in his office; these impressed visitors, but more importantly, they provided and opportunity for reluctant students to plan diversionary tactics when there was little research progress to report. In his youth, George had been an accomplished skier, and it was a broken leg incurred in a skiing accident which caused the limp associated with "GB" for as long as anyone can remember. With advancing age, this injury led to orthopedic problems which were partially ameliorated by a hip replacement. This enabled George to resume an active life, and it was while hiking a favorite trail in his beloved Swiss Alps with his wife, Anne, that George suffered his fatal heart attack. If there is any consolation in this sad event, it is that George Büchi died doing what he really enjoyed.

George Büchi is survived by Anne Barkman Büchi, his devoted wife of 43 years, and by his brother Heinrich of Bern, Switzerland. December 17, 1998

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