

TONY SWAIN

1922-1987



Tony Swain, founder editor of this journal, died in a motorway accident on 25 September 1987, and the world of plant science lost one of its leading exponents. Born and bred in Yorkshire, he served his country during the Second World War as a Captain in the Army in India. After studying chemistry at the University of Exeter, he joined the Low Temperature Research Station at Cambridge, which was under the directorship of E. C. Bate-Smith, a muscle physiologist turned plant biochemist. Their scientific partnership which lasted some fifteen years proved to be extremely fruitful and Tony's early researches gave rise to a whole series of pioneering papers. It was an exciting time in plant science; the recent discovery of paper chromatography by Martin and Synge provided the means for the first time of surveying plants for their phenolic constituents, and also of separating and identifying them in a satisfactory manner. Tony's 1953 paper with C. G. Nordström, for example, on the identification of Dahlia flavonoids by paper chromatography and spectrophotometry is a classic; it provided a model which all flavonoid workers followed for the next twenty years.

Tony's time at Cambridge was marked by a series of collaborative ventures into biosynthesis, enzymology and tissue culture with visiting scientists such as Eric Conn, Lee Creasey, John Friend, Ted Hillis and Alfred Mayer. He also tackled a variety of practical research problems, solving for example the nature of the after-cooking blackening in potato. Among important contributions to science from these active years of research were his tannin studies, especially their quantitative estimation and the paper published with Judy Goldstein in 1965 has been frequently quoted ever since.

The Cambridge Laboratory, through Tony and E.C., was leading the field in the study of plant phenolics and this was reflected in the setting up of the Plant Phenolics Group in 1957, with Tony as founder-secretary and E.C. as the first Chairman. This Group rapidly grew, with many members joining from the Continent, and it eventually became the Phytochemical Society of Europe that we know today. About this time, the need for a journal specifically devoted to plant biochemistry became more and more apparent. Tony Swain, in an historic meeting with Robert Maxwell and Gilbert Richards during the early days of Pergamon Press, rapidly convinced them of the need and thus *Phytochemistry* was born. One has only to see the rapid growth of the journal—the first volume of 1961 had 277 pages while the fifth volume ran to 1360 pages—to realise that it filled an important gap in the literature. Tony carried the editorial load single handed for the first ten years and it was only as his other responsibilities grew that he recruited an editorial team, of which I had the privilege of being the first.

Tony at this time was closely involved in the development of chemosystematics. His edited book *Chemical Plant Taxonomy*, which arose from a memorable NATO-sponsored symposium held in Paris in 1962, together with the text of Alston and Turner provided the framework from which this new field of plant research grew. It was through Tony's initiative that an IUPAC Commission was set up on the subject and it was eventually, again, Tony who founded the first journal (with E. Schoffeniels) devoted specifically to the subject *Biochemical Systematics and Ecology*, the Ecology being added later as an afterthought.

In 1965, Tony was recruited by Lord Zuckerman to serve in the Cabinet Office as scientific advisor, which he did until 1968. In order to ease his return to science, Tony then spent two years on sabbatical leave at Harvard and Yale successively and on his return to England, he set up a biochemical laboratory, under A.F.R.C. funding, at the Royal Botanic Gardens, Kew. These years at Kew were among the happiest and most productive of his life. His thoughts were now turning more and more towards the purpose and function in plants of phenolic constituents and in important pioneering studies, jointly with Gillian Cooper-Driver, he established experimentally the role of tannins as feeding deterrents in mammals. He also showed that reptiles were repelled by tannins, but not by the bitterness of alkaloids. This led to his famous new theory about the death of the dinosaurs, which hit the Sunday papers around this time.

Tony's research interests in ecological biochemistry were continued at Boston University, to where he moved in 1975 as Chairman of the Biology Department. In 1986 he reached retirement and returned as an Honorary Research Fellow to Kew, where he was working with colleagues at the C.M.L. on microbial metabolites when he met his untimely death. Tony was married twice, having three sons by his first wife and inheriting a stepson and stepdaughter with his second wife.

In this account of Tony's research career, I have not been able to mention a multitude of other scientists and many students that he worked with or influenced during his lifetime. He was an inspiring research leader, a generous host and a most congenial companion. His presence at a scientific meeting ensured that it would be a lively and stimulating occasion and, indeed, he was responsible for organising many such occasions during the early days of the Phytochemical Society. He had an abiding love and command of the English language. This was expressed in the books he edited, the many scientific papers he wrote and in his meticulous attention to detail as journal editor. It was to the considerable regret of his close friends that he never completed the book that was waiting to be written by him. He was a complex character who devoted himself above all else to that commanding mistress Science. A generalist in the best sense of the word, he had a remarkable gift of spanning the gap between chemistry and biology. He had the added gifts of contributing to and communicating to others the excitement of scientific discovery. We can but join with Hamlet and say that we shall not look upon his like again.

Jeffrey B. Harborne