

Volume 200 Introduction

This superb collection of invited publications from more than 40 carbohydrate scientists of outstanding international repute not only commemorates the appearance of Volume 200 of *Carbohydrate Research*, coincidental with its 25th year, but compliments Elsevier on their enterprise and initiative. The honour of assembling this impressive collection was perhaps bestowed upon us because LH was associated with the initial favourable discussions with Marc Atkins of Elsevier prior to its launch and was co-author of the first paper to appear in Volume 1 in July 1965. Since that time, the majority of our research findings have been published in *Carbohydrate Research* (60–70 papers), including a rather unique review by ACR on nucleophilic substitution reactions. Significantly, twelve of the authors who were associated with Volume 1 have also contributed to Volume 200.

It is interesting to reflect on the progress over the past 25 years and to comment on the status and challenge of the subject. Regular and well organised carbohydrate meetings at International, European, and Society levels have served to unify the subject and the awareness of the conferees, thereby advancing the frontiers of knowledge and enhancing many collaborative ventures and professional contacts. Indeed, the 1962 International Symposium at The University of Birmingham was most probably the springboard for the launch of *Carbohydrate Research*, which was made all the more necessary by the reluctance of certain learned societies to encourage the publication of carbohydrate papers in their mainstream journals. The extensive and far-reaching recommendations on carbohydrate nomenclature from committees in the U.K. and U.S.A. chaired, respectively, by Professor George Overend and the late Professor Melville Wolfrom, were finally approved by I.U.P.A.C., and proved to be a unifying force in the field of carbohydrate chemistry, emphasising the need for a specialist international journal on this subject.

The first part of Volume 1, a modest 96 pages containing 12 topics, was guided by prestigious advisory and editorial boards of international experts drawn from 21 countries. Whilst there were risks in marketing a new journal which differed in character from many of the long-established society journals, it was clearly justified, because the wide spread of research papers on carbohydrates in biochemical, biological, pharmaceutical, food, and medical journals gave the field a lack of focus. Furthermore, the field was expanding with the increased power of spectroscopic and chromatographic techniques, and making a significant penetration into biological fields as the realisation of the great importance of carbohydrates in living systems grew. The biological flavour was quite apparent in the very first issue with papers on sialic acids and the mucopolysaccharides of skin.

Those who questioned the wisdom of publishing a high quality, specialist international journal in 1965 were misguided, as is evident from the continued vigour of *Carbohydrate Research*. This is despite the many and varied problems which have beset the publishing industry over the past 25 years, coupled with the complex politics and

changing attitudes that have complicated the funding of original research and scientific libraries.

Volume 100, wrapped in celebratory golden covering, was published in 1982 and contained 30 excellent papers, 6 notes, and 15 exciting preliminary publications. The same team of journal editors (Allan Foster, Derek Horton, Roger Jeanloz, Bob Tipson, and John Webber) presided over this century of volumes over 17 years of publication; a remarkable achievement. As in the first volume, the first paper in Volume 100 and many of the following papers were devoted to n.m.r. studies, the trends being the general application of ^{13}C -spectra, bearing on the conformational properties of oligo- and poly-saccharides; in addition, 600-MHz ^1H -n.m.r. had arrived and there was now an upsurge in the synthesis, properties, and biochemistry of amino sugars and related oligosaccharides. The carbohydrate scene in 1990 is one of rapid expansion in fundamental knowledge and a broad front of academic and technological advances in experimental techniques. This is apparent from the series of specially invited papers in the current Volume 200, eight years after the Volume 100 milestone. A scan of the contents reveals the extensive use of sophisticated and computerised spectroscopic techniques, many only on the horizon in 1965 and others unthought of at that time. Synthetic methods have grown apace, with wide interest in chiral substrates from carbohydrates and the use of novel, often organometallic reagents with high stereoselectivity.

A quarter of a century ago, carbohydrate chemistry had little appeal to academics and industry was less than enthusiastic, but, slowly gathering strength from its interdisciplinary nature, the subject is now one of the most vigorous and challenging fields of scientific endeavour. Industry, with its new biotechnological arm, is currently seeking new and improved carbohydrate-based products, such as xanthan gum and similar products, and the increased utilisation of vast replenishable resources such as starch, cellulose, and sucrose. Pharmaceutical, biochemical, and medical interests focus attention on the understanding of the function of carbohydrates in the dynamic processes of life for improved health and the understanding and correction of the diseased state.

There has been a remarkable charisma about *Carbohydrate Research* and little change in the corps of editors; Bob Tipson has now been replaced by Laurens Anderson with David Baker a recent addition. Behind the scenes, Elsevier Science Publishers, have been a constant source of encouragement and help to the editorial team. The bookshelves in our libraries bear the edited fruit of our fertile and productive orchards; five metres in length and still growing, containing 200 volumes of carefully edited papers; more than 8500 papers in all, a developing story of original research covering the last quarter of a century. It is a tribute to the world-wide skills of carbohydrate researchers together with the editors of their papers. The vibrant quality of the contents of Volume 200 augurs well for the future of *Carbohydrate Research* and we believe that the high aims and objectives of the original editorial board and Elsevier have been achieved, a prestigious journal to which researchers from many scientific disciplines can refer for the current state of science of the carbohydrates.