

Foreword

Volume 5 of Specialist Periodical Reports on Nuclear Magnetic Resonance ostensibly deals with literature up to 31 May 1975 (in practice, as is usual, this means up to the journals received by libraries at the time the Reports were being written). The volume is the usual mixture of annual and biennial chapters. In the former category are chapters on Shielding, Spin Coupling, Relaxation, Bandshapes in Liquids, Macromolecules, The Solid State, and Medium Effects; these all cover the 1974–5 literature. Chapters which report on two years (1973–5) of publications are those on Spectral Analysis, Fourier Transform N.M.R., and Oriented Molecules (though for the last case it should be noted that there was a chapter in Volume 4 on Liquid Crystals which had a rather different emphasis). The chapter on Experimental Techniques also covers the two-year period 1973–5, but this topic will normally be dealt with annually. The only innovation in the present volume is the inclusion of a separate chapter on Heterogeneous Systems. Previously, work on adsorption was included in the chapter on the Solid State, but the present report also draws on material previously classified under Macromolecules or Liquid Crystals.

As before, coverage of the literature is, for many chapters, based on the U.K. Chemical Information Service Macroprofile 'N.M.R. – Chemical Aspects', which operates from *Chemical Abstracts* magnetic tapes. The quantity of n.m.r. literature is still increasing. In order to keep this volume of Specialist Periodical Reports to a reasonable size the Reporters have been forced to become increasingly selective. In particular, publications of conference proceedings or articles in house journals of companies or institutes are often neglected, since their quality, availability, and topicality often leave a lot to be desired. It is hoped that these Specialist Periodical Reports remain authoritative and as critical as is feasible.

Fourier Transform techniques continue to gain in popularity, and the literature is consequently changing in at least three ways, *viz.* (i) There is much less emphasis on ^1H n.m.r., but far more on ^{13}C . This trend is now spreading to 'other nuclei', especially ^2H , ^{15}N , ^{17}O , ^{29}Si and certain metals, together with the old stalwarts ^{11}B , ^{19}F , and ^{31}P ; (ii) There is more work on relaxation properties, compared with chemical shift and coupling constant evaluations; (iii) Although the liquid (solution) state is still much the most popular there is an increasing amount of solid-state work, especially using the recently developed high-resolution methods. Information about chemical shift anisotropies is becoming more common. All three of these trends are likely to continue, and this may necessitate some variation in the organization of these Reports in future. It is interesting to note, however, that

the upsurge in gas-phase work, expected by this Senior Reporter, has not yet materialized.

As usual this volume includes a table of definitions of the symbols and abbreviations used in the individual chapters, plus a list of recently published reviews on n.m.r. topics. The prompt appearance of Volume 5, together with its style and presentation, owes much to the Editorial Staff of the Chemical Society.

October 1975

R. K. HARRIS