

INTRODUCTION

The second International Conference concerned with atomic absorption spectroscopy† was organized jointly by the Society for Analytical Chemistry (U.K.) and the Institute of Physics and the Physical Society (U.K.). The Conference was held at the University of Sheffield, U.K., between 14 and 18 July 1969, with more than 450 delegates in attendance. The conference subject matter dealt with all aspects of atomic absorption spectroscopy as well as recent developments in atomic flame emission and atomic fluorescence spectroscopy. Eight plenary lecturers presented invited papers and fifty six contributed papers were delivered. These papers were read in sessions devoted to fundamental developments, metallurgical and biological applications of atomic absorption spectroscopy, atomic fluorescence spectroscopy, developments in instrumentation, theoretical aspects and chemical and physical interference effects. Two open discussion meetings provided the opportunity for delegates to discuss the desirability, nature and venue of future conferences and to make proposals concerning nomenclature in atomic absorption spectroscopy. A well attended general meeting immediately before the close of the conference took the form of a forum at which problems in atomic absorption spectroscopy and the future of the technique were discussed by the plenary lecturers and delegates. It is evident from the material contained in the invited and contributed lectures, and the views presented in the discussions which followed, that interest in analytical flame spectroscopy is still expanding rapidly. The recent developments in atomic fluorescence spectroscopy and the renaissance of analytical flame atomic emission spectroscopy indicate that these techniques must be viewed as complementary to atomic absorption spectroscopy. Which of these techniques is preferable for a particular analysis will depend on the nature of both the elements to be determined and the matrix. It is clear from the plenary and contributed papers that much current research work is being devoted to the development of non-flame sample cells for atomic spectroscopy. Recent promising developments suggest that these devices will be of great utility in atomic absorption and fluorescence spectroscopy.

This volume contains the texts of seven of the eight invited plenary lecturers. Unfortunately the manuscript of the lecture presented by Professor V. A. Fassel (U.S.A.) was not available for publication.

R. M. DAGNALL
G. F. KIRKBRIGHT
Co-Chairmen, Technical Committee

† The first conference was held in Prague, Czechoslovakia, August 1967.