

## PREFACE

The IAU/RAS Colloquium No.60 entitled "Uranus and the Outer Planets" was held at the University of Bath during 14-16 April 1981. The meeting was attended by 164 scientists from 13 countries - USA, USSR, Germany, France, Italy, Brazil, Holland, Canada, Israel, Norway, Eire, Belgium and the UK - all of whom actively participated in the meeting, which covered the past, present and future observations of Uranus.

The meeting was held to celebrate the 200th anniversary of the discovery of the planet Uranus by Sir William Herschel, FRS, so that it was essential that the meeting be held in the city of Bath where the discovery was made. The organisation of the conference was carried out jointly with the Royal Astronomical Society, whose first President was Sir William Herschel FRS.

The Scientific Organising Committee consisted of G.E. Hunt (UK, Chairman), A. Brahic (France), R.D. Davies (UK), B.A. Smith (USA), D. Gautier (France), T. Kiang (Eire), T. Owen (USA), S.K. Runcorn (UK), B.A. Smith (USA), V.G. Tejfel (USSR) and A. Wosczyk (Poland). The local organisation for the meeting was carried out by R.D. Davies, A. Steff-Langston, and members of the staff at the Royal Astronomical Society, together with D. Parkin and his colleagues at the Department of Physics, University of Bath.

The scientific discussions were divided into six main sections with 17 invited and 22 contributed papers. The meeting started with a detailed history of astronomical studies by Herschel in the 18th century which led to this important discovery, and its effect upon astronomy at that time. Four sections covered our present knowledge of the planet, its atmosphere, rings and satellites. However, there are still exciting future prospects for the exploration of Uranus and its surrounding environment in the next few years, which is

essential if we are to answer the major problems discussed at the meeting. The concluding discussions indicated the important studies of Uranus that will be possible with Space Telescope; also from the observations that will be made by Voyager during its encounter with Uranus in 1986; and from future space missions.

The Colloquium brought together a very wide collection of the scientific community to celebrate in Bath one of the most important discoveries in astronomy. Since Sir William Herschel FRS was a distinguished musician, the participants and their guests were also able to hear some of his music at a concert given by the Herschel Ensemble, performed in the attractive surroundings of the Guildhall. In addition, the complete dimensions of Sir William Herschel's talents were described in a public lecture given by Professor Sir Bernard Lovell FRS, who also added a further musical flavour to the astronomical proceedings.

This book contains all the invited lectures presented at the meeting. The written record of the meeting is introduced by Professor A. Wolfendale FRS, the current President of the Royal Astronomical Society. Herschel's original paper about Uranus has been reproduced from the Philosophical Transactions of The Royal Society, and we are very grateful to The Royal Society for their permission to include this important paper in this book. The historical sections provide the amusing and scientifically stimulating discussions relating to Herschel's work and the impact on astronomy of this important planetary discovery. In the section on the current knowledge about Uranus, the paper by Elliot also includes details of occultation observations made during April 1981. These discussions are therefore as up-to-date as possible.

The final discussions look towards the exciting future with the Voyager encounter and observations using Space Telescope, with a final contribution provided by Professor P. Wayman, Secretary General of the IAU.

This volume therefore provides a very important document about Uranus; not only reviewing our current knowledge, but also providing the detailed historical background to astronomy in the

18th Century.

I would like to express my thanks to all members of the organising committee for their assistance in organising the meeting, to the authors for promptly producing their manuscripts for this volume, and to my secretary, Pamela Shapiro, for her invaluable assistance.

Garry E. Hunt

Laboratory for Planetary Atmospheres  
Department of Physics and Astronomy,  
University College London

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