

INTRODUCTION

This volume contains the fifteenth tri-annual reports of the Presidents of the forty Commissions of the International Astronomical Union; it refers to the progress in our discipline during the three years 1970, 1971 and 1972.

As compared to earlier volumes a gradual change in character is unmistakable. The ever increasing flow of publications, combined with the obvious necessity to keep the Reports at a reasonable size and price level has gradually forced the Commission Presidents to be more selective than before in drafting their Reports. I have certainly stimulated them into that direction – in order that Reports like these be valuable and lasting, it seems imperative that the individual contributions have the character of a critical overall review, where a fairly complete summary is given of the *major developments and discoveries* of the past three years, and in which the *broad developments and new trends* be clearly outlined, while at the same time *essential problems* for future research are identified. With respect to the latter item I have suggested the Commission Presidents to add to their reports a brief section on *scientific priorities for future research* in the field of their Commissions.

In order to save space I have suggested to Commission Presidents that references to published papers are given on the basis of their number in the published issues of *Astronomy and Astrophysics Abstracts*. For instance, the indication (06.078.019) or (AAA 06.078.019) would refer to a reference in volume 06 (literature 1971, part 2) section 078 (solar cosmic radiation), paper 019 (S. N. Vernov and five others: 'solar cosmic ray bursts with proton energies $E_p > 30$ MeV observed aboard Venus 6'). Of course this system can not be followed completely since at the time of writing the Volumes containing the abstracts of the year 1972 had not yet been published. Not all Presidents have followed this suggested system, which is their privilege, of course, and which adds in my feeling to the flavour of this publication.

It is my happy duty indeed to thank the Presidents and the Members of the Organizing Committees of the various IAU Commissions for their very cooperative spirit in preparing the present *Reports on Astronomy* and for the carefully balanced way in which their contributions were written.

It was a great experience to cooperate with so many distinguished colleagues all over the world.

CORNELIS DE JAGER
General Secretary

Utrecht,
December 31th, 1972