

## PREFACE

The idea of holding this Symposium has its origin in a conversation with G. Contopoulos during the winter of 1973. It was then clear that the progress realized in Stellar Dynamics since the Thessaloniki symposium had given a new shape to the field. Other meetings such as the C.N.R.S. colloquium held in Paris in 1967 or the I.A.U. colloquium held in Cambridge, England, in 1970 had in the meantime given opportunities to review the advances achieved in several branches of this field. We thought that time had come to organize a general confrontation of the new results obtained in the approach of the gravitational  $N$ -body problem by different methods, in the investigation of spherical and flattened systems, in the comparisons with observations and in more theoretical speculations on orbits, integrals of motion, dense nuclei or relativistic stellar dynamics.

Things were made easy by the support of Commissions 33 and 37 which welcomed the proposition and by I. R. King who accepted to act as Chairman of the Scientific Organizing Committee. The final decision to meet in Besançon was taken during the XVth General Assembly of the I.A.U. in Sydney in August 1973.

The members of the Organizing Committee were: I. R. King (Chairman), G. Contopoulos, A. Hayli, M. Hénon, G. Hori, D. Lynden-Bell, L. Perek, L. Spitzer, R. Wielen, Ya. Zel'dovich while the members of the Local Committee were: A. Hayli (Chairman), J. Colin, M. Crézé, E. Oblak, F. Puel, and Miss H. Taillardat (Secretary).

The symposium was sponsored by the following authorities: the International Astronomical Union, the Délégation Générale à la Recherche Scientifique et Technique, the Ministère de l'Education Nationale, Besançon Observatory, the University of Besançon, the Conseil Général du Doubs and the City of Besançon.

The sessions were held in the conference room of Besançon Observatory. There were 11 invited papers and 29 contributed papers.

The paper by G. Pels, J. H. Oort and Mrs H. A. Pels-Kluyver was read by I. R. King and was not followed by a discussion. The second paper by R. H. Miller was presented during the Symposium as a commentary to D. C. Heggie's paper; it has been published separately. I. R. King asked D. Lynden-Bell to present the General Conclusion: it was followed by a Final Discussion.

Discussions are edited almost in their entirety. They were essentially reproduced from the slips completed by participants but the tape recordings of the Proceedings were also of some help.

For the material organization of the Symposium I have been considerably helped by my colleagues of Besançon Observatory. I would like to mention especially Miss Hélène Taillardat who helped me also in the preparation of the manuscripts, Dr M. Crézé, MM. J. Colin, E. Davoust, E. Oblak, J.-P. Parisot, F. Puel, Mrs D. Chabod and M. B. Mougin.

A. HAYLI