

## OPENING OF THE SYMPOSIUM

E. SCHATZMAN  
CHAIRMAN OF THE SCIENTIFIC ORGANIZING COMMITTEE

The place of stellar physics in Astrophysics is not the same as it were 50 years ago. Stellar evolution theory has been one of the preferred places of numerical calculations, and as a consequence, standard evolution models, from the homogeneous pre-main sequence star to the final stages, white dwarfs, neutron stars, supernovae, has become sort of archetype of numerical analysis and computation, the essence of perfection.

However, standard models turned out to be unable to solve a number of contradictions with the observations, surface abundances of Lithium, Carbon isotopes, mass of variable stars, Russell gap, etc., ... A number of new physical processes needed to be added to the usual variables: mass loss, rate of mixing and transfer of angular momentum, mass exchange in binaries; the theory of the convective zone has improved to give a better idea of overshooting, the problems of meridional circulation have been studied extensively, the theory of stability of rotating stars has made new steps ... On the other hand, high resolution spectroscopy has brought new results on surface abundance with large consequences. Altogether new constraints to stellar evolution models have been added one to the other.

The present meeting is probably the first one of a new species. We enter the epoch of high precision astrophysics. Within a few years, high precision parallaxes, new spectroscopic data with the space telescope will bring new constraints, not speaking of stellar sismology which must be carried as soon as possible, will put new constraints on stellar models, and stellar evolution scenarios. We can easily predict the time where stellar models will have no undeterminacy, and in fact will definitely oblige us to achieve great improvements in physical theories.

I am quite convinced that every one of us will leave Geneva with new ideas and new research plans.

This important gathering, a turning point in stellar astrophysics, would have been impossible without the devotion to the projects of A. Maeder. Let us thank him heartily!

I take this opportunity to present my gratitude to the Swiss Organizing Committee and to the Swiss institutions:

- \* University of Geneva,
- \* Swiss National Science Foundation,
- \* Société Helvétique des Sciences Naturelles,

for their generous assistance, in addition to the I.A.U. support.

The staff of Geneva Observatory has carried a considerable amount of work to prepare the meeting: all our thanks to the staff members.