

PREFACE

The general discussions of the roles of photometric and spectroscopic classification at Cordoba in 1971 (IAU Symposium No. 50), and of the calibration of classification indices at Geneva in 1972 (IAU Symposium No. 54), revealed clearly the steadily increasing importance of abundance parameters. The multiplicity of these, however, raised so many new problems that it was logical that the 1975 meeting at Lausanne should be concerned with ways in which differences in abundance affect both spectral types and photometric indices. Commissions 29 and 36 joined with Commission 45 in sponsoring this Symposium. Since the date of the meeting came shortly after the formal retirement of Professor William W. Morgan from the University of Chicago, it was quickly agreed that this meeting should be dedicated to him in recognition of his unique contributions to spectral classification. In the opening paper of the Symposium Dr. Bengt Strömgren has summarized these. To his remarks we should add only that it was about 1940 that Morgan first distinguished the group of G- and K-type stars with weak CN bands and metallic lines – stars which have since been recognized as having the abundance of all metals relative to hydrogen much lower than in stars of the solar population. Spectra of two of these, HD 81192 (Boss 2527) and δ Lep, were later shown as examples of the group in the Yerkes Atlas of 1943.

The topic of this Symposium can be thought of as involving two somewhat different problems. The first is the effect of abundance differences on the various indices used to measure the fundamental physical variables, temperatures and luminosity. The second problem is that of recognizing the number of groups of elements which may vary independently from star to star, and then of measuring these differences. The papers contained in this volume suggest that although progress has been made on both problems, neither is close to complete solution.

The hosts for this Symposium were the Institute of Astronomy of the University of Lausanne and the Geneva Observatory, with the sessions held in the modern College Propédeutique of the University of Lausanne in the suburb of Dorigny.

The success of the meeting was due both to the careful scientific planning of Dr Carlos Jaschek, Chairman of Commission 45, and to the exhausting work of the Local Organizing Committee. Financial assistance was provided by the Executive Committee of the I.A.U., the *Fonds national suisse de la recherche scientifique*, the Swiss Academy of Sciences and the Universities of Lausanne and Geneva. Mrs B. Michaud and Mrs B. Wilhelm are gratefully thanked for their assistance at all stages of preparation of the present volume.

THE EDITORS