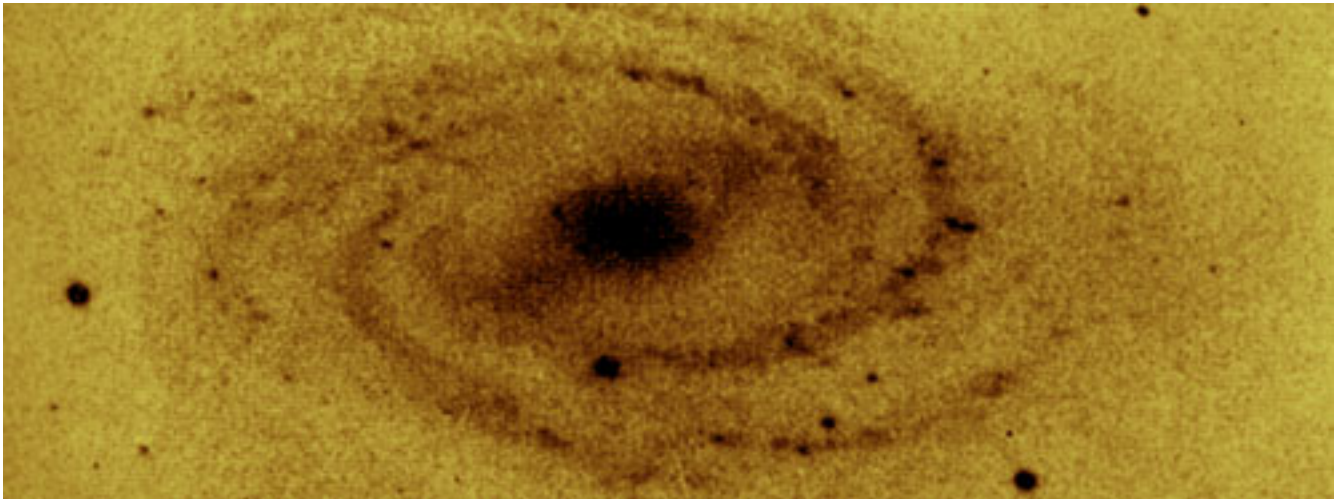




## The Problem of Stellar Population



### Introduction

When the Pontifical Academy of Sciences decided to organise from time to time a Study Week, it was intended that the first of the series should be on an astronomical theme. The then Director of the Vatican Observatory, Dr. J. Stein, SJ, was commissioned to organise the Study Week. Not long afterwards the preparations were halted by the outbreak of war. After the war Father Stein resumed the project, but died before it could be realised. The Chancellor of the Academy asked me, as Father Stein's successor, to undertake the task.

The General Assembly of the International Astronomical Union held in Dublin in August 1955 provided a good opportunity for discussing the project with other astronomers. Various topics had already been considered and rejected as not suited for the particular type of conference in view, or as not yet ripe for discussion. The topic finally chosen, the *Problem of Stellar Populations*, first suggested to me by Dr. J.J. Nassau, proved to be eminently suitable. Ever since Baade, in his 1944 paper, distinguished two types of stellar populations, the subject has aroused great interest among astronomers and has led to a flood of researches in various branches of astronomy. Nevertheless, up to that time it had not been the subject of any conference or symposium. The time now seemed just right for a thorough discussion of all the problems involved, observational and theoretical. Those astronomers to whom I proposed it agreed enthusiastically. A small committee was formed to prepare the conference, consisting of W. Baade, J.J. Nassau, J.H. Oort, M. Schwarzschild and D.J.K. O'Connell (chairman); later on A. Blaauw was co-opted as a member. The preliminary meetings of the committee were held in Dublin. The work of organisation

was subsequently carried on by correspondence, aided by occasional meetings of some of the committee members. The scientists to be invited were chosen with a view to covering adequately the various aspects of the subject, both in the formal papers and in the discussions. As explained in the Academy's rules for the Study Week, the number of participants is strictly limited, in order to ensure freer and more intimate discussions.

The formal opening of the Study Week took place on May 20 in the Consistorial Hall in the Vatican, where Pope Pius XII received the members in solemn audience, together with the Cardinals present in Rome and the Diplomatic Corps. The subsequent meetings were held in the Academy building, the beautiful 16th century Casina of Pius IV in the Vatican gardens, on May 21, 22, 24, 25, 27 and 28. There were in all twelve sessions of about three hours each. At each session one or other of the members was asked to preside. The name of the Chairman is given at the beginning of the discussion after each paper. Papers, or abstracts, were reduplicated and distributed to the members beforehand.

The proceedings were taken down on tape-recorders. In addition it was considered advisable to have notes of the discussions taken by astronomers. Father P.J. Treanor, SJ, of the University Observatory, Oxford, who has had much experience in reporting meetings of the Royal Astronomical Society, was invited to attend the Study Week to take charge of the reporting.

The Committee felt that it would be a great advantage to prepare a summary of the work of the Study Week that could be submitted to the members before the end of the meeting, so as to clarify ideas and bring the many different approaches to the central theme into relation with each other, and also to facilitate the drawing up of conclusions and recommendations. Mr. Hoyle and Professor Oort kindly consented to undertake this by no means easy task, the former from the physical, and the latter from the astronomical, point of view. The two sessions on the final day of the meeting were devoted to the summaries and their discussion. The Academy's rules for the conduct of the Study Week provide that at the end of the meeting conclusions be drawn up, presenting the results of the discussions, as well as proposals for future research. A preliminary statement of the conclusions was issued to the press at the end of the Study Week. The definitive formulation of the conclusions and suggestions for research are contained in the volume of the Proceedings.

There remains the pleasant duty of thanking all those colleagues who took part in the Conference and who devoted so much valuable time and took such pains to make it a success. To the Pontifical Academy of Science, especially to the President, Padre Agostino Gemelli, O.F.M., and the Chancellor, Dr. Pietro Salviucci, I wish to express, on behalf of all the participants, our heartfelt thanks for the facilities put at our disposal and for the excellent organisation which contributed so much to lighten our labours.

D.J.K. O'Connell, SJ