

28. COMMISSION DES NÉBULEUSES ET DES AMAS STELLAIRES

PRÉSIDENT: M. H. SHAPLEY, *Director of the Harvard College Observatory, Cambridge, Mass., U.S.A.*

MEMBRES: MM. Ambartsumian, Baade, Bowen, Carpenter, de Kerolyr, Mme H. B. Hogg, MM. Hubble, Humason, Lampland, Lemaitre, Lindblad, Lundmark, Madwar, Mineur, Mile J. Mohr, MM. Parvulesco, Reinmuth, Reynolds, Schaumasse, V. M. Slipher, Stoy, Trumpler, Vanderlinden, van Maanen, Vyssotsky, Wallenquist, Wirtz, W. H. Wright, Zanstra.

During the past three years observational and theoretical work has been uncommonly extensive and fruitful in two of the fields within the interests of Commission 28—namely, the distribution of external galaxies and the analysis of diffuse nebulosity, the latter including interstellar absorbing material. Important work is also under way at a number of observatories in the interpretation of planetary nebulae. Studies of clusters, however, have been limited to a few active workers, and progress has not been rapid in the analysis of individual galaxies.

The chairman wrote in November 1937 to all thirty members of the Commission, asking for material that would be useful for inclusion in a report to the International Astronomical Union and for suggestions concerning problems and programmes that could be advantageously discussed at the meetings in Stockholm. Replies were received from only one-third of the members. The result is hardly surprising, since the Commission includes several who are not now working in the field and practically all the others are involved in highly specialized programmes. There appears to be no immediate problem demanding co-operative activity. The Commission should be continued, however, because of probable future needs.

In earlier reports of the Commission the basic needs of workers on clusters and nebulae have been emphasized. They include: (1) the improvement of magnitude standards, especially in the blue fainter than the seventeenth magnitude and in the red; (2) publication of programmes of research in order to prevent unknowing duplication; (3) the development of dependable techniques for the measurement of surface brightness of nebulae; (4) concentrated attention on the dynamical problems involved in the dissolution of clusters and the structure of galaxies.

Dr Mineur urges that observatories having old plates showing galactic clusters measure the surrounding stars in the hope of finding additional physical members, or, if preferable, send the plates to him at the Observatory of Paris for measurement and discussion. He suggests also that meridian observations be made of stars within one degree of galactic clusters, in order to help in the determination of absolute proper motions of the clusters. De Kerolyr suggests further exploitation of the method of superposing negatives to increase the visibility of faint nebulosities.

It will probably be advisable to hold a joint meeting of Commission 28 with Commission 33 (Stellar Statistics) to discuss problems they have in common.

HARLOW SHAPLEY

President of the Commission

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