

## COMMISSION 31 (BUREAU DE L'HEURE)

### COMMISSION MIXTE DE L'HEURE

PRESIDENT: Prof. N. E. NÖRLUND.

SECRETARY: Dr A. LAMBERT.

Séance du vendredi, 5 août, 1938, à 11<sup>h</sup> 30<sup>m</sup>.

M. le Président a examiné les comptes du Bureau international de l'Heure pour les années 1935 à 1937 et a reconnu que les règlements ont été respectés; les revenus ont été en 1935 de 59,252.35 fr. français, et dans les deux années suivantes de 12,000 fr. suisses.

Les dépenses se montent en 1935 à 60,817.55 fr., en 1936 à 59,164.30 fr., en 1937 à 67,530.70 fr.

Au 1<sup>er</sup> janvier 1935 il restait en caisse 357.55 fr. La balance au 1<sup>er</sup> janvier 1938 s'établit à 1136.50 fr.

La Commission adopte à l'unanimité les conclusions approbatives du Président en ce qui concerne la gestion.

M. le Directeur du Bureau international de l'Heure donne lecture de son Rapport, montrant le développement de l'activité du Bureau depuis la dernière Assemblée. Il demande que soit sollicité par l'Union Astronomique Internationale une subvention annuelle au Bureau de l'Heure de 8000 fr. or.

La Commission donne son adhésion à la proposition britannique:

"That, from the beginning of 1940, the positions of stars used for the determination of time or in connection with radio time-signals be based on the FK3 system."

M. le Président donne la parole à M. Armand Lambert. Celui-ci fait un exposé, illustré par des clichés de projection, des installations nouvelles réalisées depuis 1938, ou en voie de réalisation au B.I.H., dans le but d'émettre à une heure très exacte les signaux que commande et contrôle cet organisme. Un ensemble de deux enregistreurs et d'un émetteur à cellule photoélectrique, synchronisés par des diapasons, ont été mis à disposition du B.I.H. par l'Observatoire de Paris.

M. J. de Graaff Hunter fait connaître la description et l'usage d'un micromètre de son invention (shutter-eyepiece).

La séance est levée à 12<sup>h</sup> 30<sup>m</sup> et la fin de l'exposé de M. de Graaff Hunter est renvoyée au lendemain, où se tiendrait une réunion commune aux Commissions des Longitudes et de l'Heure.

## COMMISSION 32 (SELECTED AREAS)

PRESIDENT: Prof. P. J. VAN RHIJN.

SECRETARY: Prof. W. J. LUYTEN.

Van Rhijn presides. The Draft Report was unanimously adopted. A letter from Mrs Gaposchkin on the systematic differences between the Harvard spectra and the *Potsdamer Spektral-Durchmusterung* was read and discussed, and a resolution inviting observers of Selected Areas to interchange material and to determine systematic differences with Harvard was adopted.

The possibility of determining absolute proper motions by referring them to extra-galactic nebulae was discussed. Van Maanen elucidated this on the basis of

several trials made with 60-inch plates from which he found that a large number of nebulae were required on each plate in order to obtain accurate results.

The question of establishing a few additional Selected Areas was discussed and a motion by Adams to have the President appoint a sub-commission to deal with this matter was adopted.

### COMMISSION 33 (STELLAR STATISTICS)

PRESIDENT: Prof. BERTIL LINDBLAD.

SECRETARIES: Prof. H. L. VANDERLINDEN and Dr C. SCHALÉN.

The Commission met on August 4, at 9.30.

The report prepared by the President of the Commission was adopted. A few important and interesting points were further discussed.

(1) Mr Bok gave an outline of a general programme of determining radial velocities by means of objective-prism spectra. Measurable spectra can be obtained for stars as faint as  $10^m \cdot 2$  using one comparison line; the probable error is of the order of  $\pm 20$  km. per sec. A greater precision should be obtained if more comparison stars were available.

(2) Mr Shapley made the following proposal concerning the appointment of a sub-commission for establishing co-operation on the construction of magnitude sequences.

"The Commission on Stellar Statistics endorses the proposal that the Commission on Stellar Photometry (25) consider the appointment of a sub-commission on magnitude sequences, noting that for work on stellar distribution, variable stars, external galaxies, faint asteroids and faint proper-motion stars the need of more precise photographic and visual magnitudes is very great."

The motion was adopted by the Commission.

(3) Mr Vyssotsky made a few remarks concerning extensive plans for classifying stellar spectra.

(4) Mr Andersen summarized a paper by himself bearing on the general theoretical basis of probability in statistics.

(5) Mr Mineur called attention to the importance of securing radial velocities of galactic clusters, as they should allow a good determination of the distance of the galactic centre. Radial velocities of a greater number of globular clusters are also extremely desirable.

### COMMISSION 35 (CONSTITUTION OF THE STARS)

PRESIDENT: Sir ARTHUR EDDINGTON.

SECRETARY: Prof. B. STRÖMGREN.

The Commission first discussed the problem of the density distribution in the interior of the stars. The President summarized the arguments leading to stellar models characterized by a polytropic index of  $1\frac{1}{2}$  at the centre which increases outwards to a value between 3 and  $3\frac{1}{2}$  near the outside. The President then commented