

## 26. Commission des étoiles doubles.

PRESIDENT—Dr. R. G. Aitken, Lick Observatory, Mount Hamilton, California, U.S.A.

MEMBERS—MM. G. Abetti, G. Bigourdan, T. Espin, P. Fox, W. J. Hussey, R. T. A. Innes, J. Jackson, R. Jonckheere, G. Van Biesbroeck.

Active correspondence has been maintained with the various members of the Commission, and, in addition, a meeting of all the American members—Messrs. Aitken, Fox, Hussey, and Van Biesbroeck—was held at the Dearborn Observatory, Evanston, Illinois, on February 6, 1922. Messrs. E. E. Barnard, G. C. Comstock and Joel Stebbins were also present at this meeting, by invitation.

It will be unnecessary to present the details of these written and oral discussions, but attention may be directed to a few general conclusions. It is conceded by all that co-operation in observing double stars, to ensure the adequate measurement of all pairs without too great an amount of duplication and, at the same time, without undue interference with individual choice in programme, is one of the most important objects to be achieved by the Commission. Plans to this end have been proposed and partly carried out, but the most hopeful one seems to be the plan to maintain a central office for all matters relating to double star astronomy. We recommend that such an office be maintained and that its functions be construed liberally.

Of almost equal importance is the formulation of a programme for the thorough investigation of the systematic errors of measurement of double stars. This has been strongly urged from the beginning by several members of the Commission, and, in particular, by M. Bigourdan. The question was fully discussed at the meeting in Evanston, and a definite programme was prepared which will be presented for further discussion at the meeting in Rome.

It is to the interest of all astronomers that a uniform system of definitions and symbols be adopted and that observations be published in sufficient (but not unnecessary) detail. Specific proposals along these lines, relating to double stars, will be presented at the Rome meeting.

The desirability of the publication, from time to time, of General Catalogues of all double stars is recognised. A new Catalogue of Southern Double Stars is in an advanced stage of preparation by Mr. Innes; and the Extension of Burnham's General Catalogue, begun by the late Eric Doolittle, has reached such a stage that publication will be possible within a few years. Plans for the latter have been so made that full recognition will be accorded both to the original Catalogue by Burnham and to M. Jonckheere's later catalogue. These plans, likewise, will be presented at the forthcoming meeting of the Union.

All are agreed that the results obtained during the past three years have justified the establishment of the Commission and it is recommended that it be continued as a permanent constituent of the Union Astronomique Internationale.

The *agenda* for the meeting at Rome are appended.

Respectfully submitted,

For the Commission,

February 27, 1922.

ROBERT G. AITKEN,

*Chairman.*

*AGENDA.*

1. The maintenance of a Central Office for all matters relating to double star astronomy; co-operation in observing double stars.
2. Definition and classification of double stars; symbols and their definitions.

3. Observing methods :
  - (a) Number of separate measures desirable.
  - (b) Precautions to be taken.
4. Personal equation, or systematic error.  
(A detailed programme for investigating systematic error will be presented for discussion).
5. Measures to supplement micrometer measures.
  - (a) Photographic measures.
  - (b) Interferometer measures.
6. Form of publication of results :
  - (a) The essential data.
  - (b) Other desirable data.
  - (c) Place of publication.
7. General Catalogues :
  - (a) Frequency of publication.
  - (b) Material to be included.
8. Theoretical and statistical questions to be investigated.

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**27. Commission des étoiles variables.**

PRESIDENT—Professor Solon I. Bailey, Harvard College Observatory, Cambridge, Mass., U.S.A.

MEMBERS—MM. A. Bemporad, C. L. Brook, E. Cosserat, E. Guerrieri, J. G. Hagen, F. C. Jordan, E. E. Markwick, J. Mascart, E. Paci, T. E. R. Phillips, H. C. Plummer, H. N. Russell, H. Shapley, J. Stebbins, H. H. Turner.

The observation and discussion of variable stars form an important part in the development of modern Astronomy. Results have been obtained in ever-increasing quantity and quality since the systematic observations of Argelander about the middle of the last century. These results have been obtained for the most part without any international co-operation, by independent institutions, societies, and investigators, each impelled by an enthusiastic devotion to astronomical science.

First, we must inquire in what ways an international Committee can aid these investigators and make more efficient that which has already been done so well. It needs to be made clear at the beginning that the Committee will attempt no domination over existing agencies, but, by the spirit of co-operation, by the presentation of data, and by response to real needs, will seek to be useful to all, to the amateur as well as to the professional astronomer. This is the more important since the observation of variable stars is the special field of the amateur, who frequently is in need of assistance.

The observation of variable stars calls for cooperation more than most other lines of astronomical research. To secure continuous records of the light curves at critical epochs, co-operation is absolutely necessary. Moreover, while the observations of the great band of amateurs are of much value, the instruments they use are in general of small size and need to be supplemented by larger telescopes. The determination of precise positions, the selection and measurement of comparison stars,