

IAU WORKING GROUP ON NUMERICAL DATA

Report of Meetings

CHAIRMAN/SECRETARY: G. A. Wilkins.

1. Introduction

The occasion of the General Assembly at Sydney provided the first opportunity for meetings of the Working Group on Numerical Data that had been formed as a consequence of the decision taken at the General Assembly in Brighton in 1970. Unfortunately, however, only about half of the members and a small proportion of the consultants were able to attend, and the open meeting organised by the Group was held at the same time as meetings of Commissions with considerable interests in numerical data activities. Even so, the Group was able to make useful progress in discussions on the nature of, and procedures for, future activities and was able to gather much additional information about available data files, as well as to learn about the needs and problems of other astronomers.

This report consists of two parts. Firstly, there is a summary account of the Open Meeting, which was intended to provide an opportunity for participants to learn about the past activities of the Group and to discuss current and future activities. Secondly, there is a record of the separate meetings of the Group to discuss administrative arrangements and how to implement the suggestions made at the Open Meeting. The survey of astronomical data activities that was drafted before the Assembly is being amended and extended as a result of the meetings and is being published separately.

2. Open Meeting

An Open Meeting on 'Numerical Data' was held during the afternoon of Tuesday, 1973 August 28, and was attended by about 30 persons.

The Chairman gave a brief account of the formation and initial activities of the Working Group (see first report in *Trans. IAU XVA*, 757–60, 1973). A draft survey of astronomical data activities had been prepared and distributed to all those who were associated with the Group. This contained brief details of the data activities of each of the Commissions of the IAU and of some other international organizations, and a listing by country and place of all known centres having substantial interests in the compilation and/or distribution of astronomical data. He invited additions, corrections and suggestions for improving this survey and drew attention to some of the questions about documentation, organization and policy that the Group was endeavouring to answer. He hoped that the meeting would provide an opportunity for general discussion on these questions, as well as for the presentation of brief reports on current activities.

Dr. Jung gave an account of the formation and activities of the Stellar Data Centre at Strasbourg, which depended on the active cooperation of several other European observatories. The Centre distributed an Information Bulletin about its holdings of data and met requests for the supply of data on magnetic tape. A particular effort was being made to produce a unified, homogeneous catalogue containing identifying, astrometric, astrophysical and bibliographic data for each star; so far about 400 000 stars had been uniquely identified, but the associated data were not yet complete.

A. Underhill presented a report by J. Meade of the Laboratory for Optical Astronomy at the Goddard Space Flight Centre; pertinent data from many star catalogues were being combined and use was being made of the Strasbourg catalogue of identifications.

W. J. Luyten stated that he would soon have data for a further 400 000 stars ready for publication and sought suggestions on the form that the catalogue should take so that it would be appropriate for inclusion in data centres.

T. Lederle described the work of the Astronomisches Rechen-Institut at Heidelberg on the compilation of astrometric data; many older catalogues still needed transcription to cards and tape; there were still difficulties in exchanging magnetic tapes.

B. Morando stated that over 200 institutions were on the mailing list for the information cards of the International Information Bureau for Astronomical Ephemerides at the Bureau des Longitudes, Paris; the cards give details of the availability, on cards or tape, of solar system ephemerides and catalogues of precise star positions.

C. W. Allen stated that a third edition of his compilation of *Astrophysical Quantities* would be published shortly, but he had now retired and was concerned to make arrangements for the continuation of the project – he hoped that one or two individuals, or an institution, would be willing to take over the responsibility. It was essential that the literature be continually monitored and work in preparation for the next edition should start immediately.

B. Hauck drew attention to some photometric and spectroscopic catalogues that have been issued recently, or are in preparation. The role of data centres had been discussed at the meeting of Commission 45; it is considered that a data centre should be active in the compilation of data and that journals should be prepared to publish details of the data available on magnetic tape but not printed in the journals. *R. H. Garstang* indicated that the main source of spectroscopic data was still the National Bureau of Standards (Washington, D.C.), but the Joint Institute for Laboratory Astrophysics (at Boulder, Colorado) had a data centre on collision processes and provided updated bibliographies every few years. He drew attention to the new *Journal of Physical and Chemical Reference Data*. The Chairman commented that a list of such journals, or other published sources of information about data activities, could be included in the Survey being prepared by the Group.

A. H. Batten stated that he is monitoring the literature in readiness for the publication of the seventh edition of the Lick Catalogue of orbital elements of spectroscopic binaries. Commission 42 considered that it is important that the catalogue should be published as a book, as well as being available on magnetic tape.

Y. Terzian stated that K. I. Kellerman had prepared a report on radioastronomical data and copies are available on request. R. H. Dixon maintains an updated version of his catalogue of radio sources and is prepared to supply copies on magnetic tape. A catalogue of pulsar data is maintained at Cornell University and computer listings are distributed at irregular intervals to about 100 active research workers; schematic representations of the data in graphical form are also distributed.

H. Tannenbaum described (through the Chairman) the availability of X-ray data from the Uhuru satellite; data are made available directly to Guest Investigators whose proposals for the analysis of the data have been approved by NASA but, in addition, accumulated data are available from the NASA National Data Centre under standard procedures.

3. Group Meetings

The Group met at 7 p.m. on August 23 and at 6.45 p.m. on August 28. The first meeting was primarily concerned with the arrangements for the open meeting and with the discussion on the suggestion that the Group should be associated with Commission 5 (Documentation). It had become apparent that the Group did not fit well into the structure of the IAU, but it did not appear to be appropriate for the Group to seek recognition as a separate Commission; the suggestion was adopted, subject to the agreement of Commission 5 and of the IAU Executive Committee to the appropriate extensions of the scope and membership of that Commission.

It was agreed that the survey of astronomical data activity should be published separately, and not in the Transactions of the Union; the idea that it be issued in an IAU Information Bulletin found general favour. Suggestions for amendments and additions were discussed, and the Chairman agreed to try to produce a revised copy by the end of October. The proposal that details of individual data files be made available on information cards, such as those of the Bureau on Astronomical Ephemerides, was discussed: Morando said that he did not have the resources to issue the large number of cards that would be involved, but he could issue some guide-line cards.

The Group felt that there was, as yet, no evidence of a need for a comprehensive astronomical data centre. There should be specialist data analysis centres whose staff are actively engaged on the use of the data, but there did not appear to be any need at present for international funding of such centres for astrophysical data.

It was agreed that it is desirable that the Group should meet between General Assemblies and it was provisionally agreed that meetings should be held in 1974 (perhaps at Herstmonceux) and in 1976 (perhaps at Strasbourg, just before the Assembly at Grenoble). Some suggestions for changes in the members and consultants of the Group were discussed; it was agreed that the Chairman should ask the new Presidents of Commissions to suggest possible consultants for their fields.