

COMMISSION 5. DOCUMENTATION AND ASTRONOMICAL DATA
(DOCUMENTATION ET DONNEES ASTRONOMIQUES)

PRESIDENT: B. Hauck

SECRETARY: H. Andernach

Session 1: BUSINESS MEETING

18 August 1994

Chairman: B. Hauck

Before the start of the meeting the president informed of the death of Dr. J.B. Sykes, former President of the Commission (1970-78) in September 1993.

1. Report of the President for 1991-1994:

The report for the period 1991-1993 has been distributed widely as part of Newsletter 8 of Comm. 5 (Jan '94) and has been published in IAU Transactions Vol. XXIIA (pp. 7-12) Reports on Astronomy. Since then a colloquium was held in April 1994 in Moscow, devoted to the creation of a network of databases in the countries of the FSU. Also, Huang Bi-kun, of Purple Mountain Observatory, is preparing a book entitled International Bibliography of Astronomy Serials, to be published by the Science Press of Beijing. A "Space Sciences Dictionary" by J. Kleczek and H. Kleczekova has been published by Elsevier and the Czechoslovak Academy of Sciences. An electronic version is being prepared by TWIN Publishers, Amsterdam and should be finished at the beginning of 1995.

The main problem that the SOC had to deal with was determining a new structure for Commission 5 as well as its status after restructuring of IAU Commissions as a whole.

The SOC has discussed the proposals of the IAU General Secretary, J. Bergeron, concerning the restructuring of commissions. B. Hauck, in his reply to J. Bergeron, underlined that Commission 5 is not a scientific commission but an advisory commission to the Executive Committee. Commission 5 wishes to act more than in the past as an advisory body to the Executive Committee, to other commissions and also to editors.

Time has also been devoted to discussing the sponsorship of meetings during this General Assembly and also a new edition of the colloquium held six years ago in Washington D.C. on Library and Information Services in Astronomy, LISA.

2. Reports of Chairpersons of Working Groups:

WG "Astronomical Data": A. Heck reported on the various newsletters he issued with information on books, conferences, and items of interest to the WG and more generally on information systems. He reported on his task as IAU representative to CODATA, on the reports produced in the name of the Union and on his participation at CODATA's GAs in Beijing (Oct 1992) and in Chambéry (Sep 1994).

Joint WG on Astronomical Libraries (JWGAL): W.H. Warren stated that its task is to promote improved communication among astronomers and the astronomical librarians who support them. Completed and ongoing projects of JWGAL were done mostly by librarians and include the organization of a LISA II meeting, The Astronomy Thesaurus, the Library Partners Project, a new Union List of Astronomy Serials, lists of astronomy newsletters and meetings, an observatory manuals collection, and a compilation of astronomy homepages of interest to librarians (cf. sess. 4).

WG "Designations": P. Dubois reported that the major effort and achievement is "The Second Reference Dictionary of the Nomenclature of Celestial Objects" by M.-C. Lortet and collaborators (Publ. Speciale CDS 24, 1994). Other efforts were made in updating the IAU document on "Specifications" and to diffuse it via the editors or other means like posters presented at some colloquia.

WG "Radioastronomical Databases": H. Andernach gave an account of this WG which was formed in 1991 under Comm. 40, and later also supported by Comm. 5. About 130 radio source catalogues were collected from the authors in electronic form and 60 of these with over 500,000 entries are now searchable via EINLINE at CfA. It fills an important gap in the radio band left open by other database systems.

3. New Structure of the Commission:

The number of working groups was too high to work efficiently. A further reason for a new structure was seen in the changes in the field of information handling and, especially, electronic publication. The book by Heck and Murtagh on "Intelligent Information Retrieval" provides an excellent introduction to the field. A review paper by Andernach, Hanisch and Murtagh on "Network Resources for Astronomers" will appear in PASP in late 1994. Egret and Albrecht are preparing a revision of their book on "Databases and On-Line Data in Astronomy". Electronic publication will become more important, and new problems will arise such as refereeing and distribution in countries without an Internet connection or with a too expensive one. In order to adapt the Commission's structure to this evolution, a Working Group on "Information Handling" was formed, and A. Hearn was thanked for agreeing to chair it. In addition to this new WG, it was proposed to have "Task Groups" to deal with narrower fields than those treated by WGs. After a critical discussion of the president's proposal for the new system of WGs and TGs (claimed to overlap too much between each other) the proposal was voted and adopted with 18 votes in favour, 1 in contra and 5 abstentions.

4. Officers, Organizing Committee and Members for 1994-1997:

The SOC is composed of President B. Hauck, Vice-President O. Dluhnevskaya, and the members: H.A. Abt, M. Bessell, M. Crézé, A.G. Hearn, H. Jenkner, Li Qi Bin, A. Piskunov, E. Raimond, G. Riegler, W.H. Warren, D. Wells, R. Wielen, G. Wilkins.

The following new members were admitted to the Commission: F. Genova, D.A. Green, A.G. Hearn, P. Kuin, F. Murtagh, A. Piskunov, J. Schneider. With the resignations of W.P. Bidelman, G. Lynga, L. Lyubimkov, and G. Sedmak, the number of members is currently 120.

The following people have been invited to be consultants for the coming triennium: T. Banks, S. Borde, E. Bouten, M. Cummins, B. Corbin, H. Knudsen, S. Laloe, Li De-He, D. Lubovich, U. Michold, R. Shobbrook.

5. Working Groups and Task Groups for 1994-1997:

The following WGs and TGs and their chairpersons were agreed on:

WG Astronomical Data: E. Raimond
 WG Information Handling: A.G. Hearn
 WG Libraries: W.H. Warren/B. Corbin
 TG FITS: D. Wells

TG Data Centres & Networks: M. Crézé
 TG Designations: H. Dickel
 TG Thesaurus: R. Shobbrook
 TG UDC 52: G. Wilkins

6. Miscellaneous:

N. Roman distributed a statement of the role of the NASA ADC, requesting comments. The feeling was that archiving tabular data from journals is important. She reported on the activities of the NASA ADC, mentioning that the brief descriptions of their catalogs, as far as available, are now on WWW. She also told of plans for a possible second CD-ROM.

Session 2

23 August 1994

WG ASTRONOMICAL DATA (Chair: A. Heck). As the outgoing chairman, A. Heck thanked all active members during the past triennium. He also detailed CODATA's role, structure and procedures, as well as his personal involvement in CODATA Editorial Board and in the CODATA France Board. He reported on the astronomical session organized at the forthcoming CODATA '94 scientific meeting in Chambéry (Sep. 1994). In his short address, the future chairman of the WG, E. Raimond, promised a work plan of the WG after being relieved from organising the present IAU General Assembly.

R.E.M. Griffin gave an account of the WG for Spectroscopic Data Archives, created three years ago under Comm. 29 to investigate and stimulate interest in the creation of a world-wide scheme for archiving and disseminating spectroscopic observations. The WG has visited, discussed, consulted and encouraged widely and is now recommending to the IAU that such a project is officially needed and wanted.

TG DATA CENTERS AND NETWORK (Chair: O. Duzhnevskaya). On behalf of the Chairman, O. Duzhnevskaya stressed the increasingly significant role that Astronomical Data Centers play in the astronomical community as accumulators and distributors of very large collections of astronomical data. She proposed a meeting of representatives of all astronomical data centers to be held at St. Petersburg early in 1996.

E. Ochsenbein described the current level of documentation standards for electronic catalogues as stored at CDS. A special file attached to each catalogue provides the necessary details of the catalogue contents in a comprehensive and uniform format, which is readable by a human eye but also by a computer. The standard addresses the way of describing each table making up a catalogue, with special emphasis on units and labels. Software tools using this standard include a translator into FITS tables, and a checker of the compliance of the data with their description. The full text of the documentation standard is available at URL "<ftp://cdsarc.u-strasbg.fr/pub/cats/doc.ps>". Over 500 catalogues are now documented according to this standard which was recently adopted also by the Astronomical Data Center (ADC) at NASA-Goddard.

K. Nakajima presented the status of new activities of the Astronomical Data Analysis Center (ADAC) at the National Astronomical Observatory (Japan) which started in July 1994, with new staff members and contributors. Among its international collaborations, a beginning of the mirroring operation with the CDS catalogue files is especially noteworthy. The second set of CD-ROM catalogues of "Stellar Astronomy" will soon be produced.

TG FITS (Chair: P. Grosbol). P. Grosbol summarized activities of the past triennium. A formal voting procedure for approval of new proposals for the FITS

format was defined by the Working Group. It was agreed that at least 3/4 of the members must vote for a proposal to have it accepted. Following this procedure the proposals for the binary 3-D table extension (BINTABLE), the image extension (IMAGE) and the blocking rules were accepted as new standards. They had already been supported by the European, North American and Japanese FITS Groups as required for a formal vote in the IAU FITS Working Group. Thus, these proposals have become a part of the FITS standards by the mandate given to the FITS WG by the General Assembly (ref. resolution B2, 20th IAU GA). The NASA Office of Standards and Technology (NOST) made a significant contribution with a concise description of the FITS standard. This document was subjected to a rigorous review procedure to ensure conformity. The Office also issued a FITS users guide and provides support for the community. Extensive information on FITS is available via anonymous ftp at the Internet host "fits.cv.nrao.edu" and on WWW mosaic pages. It includes standard documents, traffic on the FITS News group and test files. D. Wells, the new chairman for 1994-97, outlined the main activities for this period. They include a critical review of the relationship between Working Group and Union, and approval of the NOST FITS document with a clarification of the usage of physical units. Further, the group will work toward agreements on a standard representation of World Coordinates and usage of data compression.

Session 3

23 August 1994

WG INFORMATION HANDLING (Chair: A. Heck). In his introduction Heck briefly reported on new aspects, challenges and problems resulting from the information technology evolution. He described how the concepts have evolved towards knowledge and information handling, largely through digitized media and electronic means. The development of Internet, of WWW and of tools such as Mosaic allows now a daily cyberspatial navigation through distributed specialized centres. Another important feature is the increasing importance of yellow-page services (e.g. Star*s Family or AstroWeb). The hypertextual structure of the information permits to move to truly electronic publishing with a redefinition of the grey literature, as well as the role of librarians and publishers. Problems at hand are on the ethical, legal and educational levels, as well as the quality control.

C. Christian of UC Berkeley described the National Information Infrastructure Testbed activities as related to distributed computing applied to Astrophysics research, education and outreach activities. This organization is aimed at improving information access to industry, private individuals and facilitating commerce by deploying testbeds across the US country.

D.C. Wells on "AstroWeb and the Growth of the Internet": The 'Mosaic' tool, released in 1993, has made WWW a very popular service on the Internet. Since then various astronomers made lists of relevant servers. The AstroWeb Consortium was formed in January 1994 to merge the five largest lists (at CDS, ESO, MSSSO, NRAO and STScI). AstroWeb currently provides links to about 1000 astronomical Internet resources and it is growing steadily. Reachability of resources is checked daily. Forms are provided to register new entries. The URL for the NRAO version of AstroWeb is "<http://fits.cv.nrao.edu/www/astronomy.html>". Most astronomers are now topologically 'close', and busily exploiting the great potential in wide-area networking: mining data archives, keeping up with latest developments, collaborative research projects, remote observing, cataloging, etc. By the year 2000 virtually every astronomer will have access to the Internet.

TG DESIGNATIONS (Chair: P. Dubois). In his report P. Dubois reminded that the major problem encountered in astronomical designations is the use of only the coordinates to designate an object. The IAU recommendation is to always add an acronym. The Second Reference Dictionary (Lortet et al. 1994; also online as user "info" on simbad.u-strasbg.fr) should be consulted to avoid confusions (like the use of SMC 1 for a planetary nebula in the Large (!) Magellanic Cloud). Other recommendations are found in the IAU document, e.g. A&A 281(1994)A12-14. The second problem which became more and more important is the designation of an object within or near another object. Efforts will be made to define the lacking standards. The TG will be chaired by H. Dickel for 1994-97 and a major task will be to inform the world of astronomers of the IAU recommendations.

Session 4

23 August 1994

Follow-up of the business meeting (Chair: B. Hauck). G.A. Wilkins stressed the need for a new edition of the IAU Style Manual to take into account the recent changes in the preparation, presentation and publication of astronomical papers. The astronomy class of the Universal Decimal Classification (UDC) system, widely used for indexing and retrieval, is about 20 years out of date. He asked for assistance to accomplish both tasks. It was agreed that a Task Group on the revision of UDC 52 should be formed under the chairmanship of G.A. Wilkins.

G.A. Wilkins expressed his strong support for a WG on Editorial Affairs so that matters pertaining to astronomical publications and to the IAU Style Manual could be discussed by an open group that represents authors as well as editors.

WG INFORMATION HANDLING (Chair: A.G. Hearn). A.G. Hearn gave an introduction to this new WG, reminding that the nature of information handling has changed enormously in the last few years. Computers are taking over more and more from the printed page. Examples of their impact on astrophysics are online databases such as SIMBAD, the electronic catalog archives at data centres, or the developments of text processors and electronic submission of articles to journals. One of the tasks for the new WG is to provide a forum to discuss the radical changes to come in the publication of journals. What is the future of a refereed paper journal? Will they be replaced by purely electronic publication? Will referees become an endangered species? We shall make proposals for a Joint Discussion at the 1997 IAU to discuss these problems.

JOINT WG ON ASTRONOMICAL LIBRARIES (Chair: W. Warren/B. Corbin). B. Corbin reported on the problems of global online access to Astronomy and Astrophysics Abstracts. As AAA is available only on a commercial database, some astronomers and librarians not affiliated with large universities face difficulties to pay for it. B. Corbin noted that JW GAL would begin searching for a solution.

Corbin also reported on projects currently underway by astronomy librarians: Multi-Lingual Supplement to the Astronomy Thesaurus (R. Shobbrook); Union List of Astronomy Serials Online (J. Bausch); Astronomical Meetings Listing and the Observatory Manuals Project (E. Bryson); Astronomy Newsletters List (C. Van Atta); Astronomy Home Pages Project (K. Robertson); Astrolib, an e-mail bulletin board for astronomy librarians (E. Bouton); and Partnerships with Astronomy Libraries in the Former Soviet Union (B. Corbin). Astronomy librarians wish to continue

cooperating closely with astronomers in these projects in order to provide useful information to the astronomical community.

W. Warren described the meeting "Library and Information Services in Astronomy" (LISA II), officially an IAU Technical Workshop to be held at ESO Garching, FRG, on 10-12 May 1995. It will consist primarily of invited lectures, contributed posters, and tutorials by database and software vendors. Among the topics to be covered are: astronomical databases and Internet resources, automated library systems, changing technologies and librarian roles, electronic publishing, and new storage media. The meeting is intended to help all librarians to keep up with the rapid progress in the area of information handling as well as to foster communication and cooperation among librarians and astronomers world-wide.

S.S. Murray reported on NASA's "Astrophysics Data System" (ADS). The ADS is being restructured beginning in FY1995. The emphasis will be on the Abstract Service, the internals of which will be improved to provide support for the increased use of the service, particularly since it is available via the World-Wide Web via the URL http://adswwww.harvard.edu/ads_services.html. The plans call for expanding the NASA RECON categories presently covered to include instrumentation and space physics. It is also planned to add a cross reference function based on the ISI Citation Index that will provide hyperlinks to the abstracts of articles referred to in an abstract. Finally a factor space based mechanism is being developed to allow searching the abstract database by the use of both NASA RECON and A&A keywords. These extensions and enhancements to the Abstract Service will be accomplished over the next two to three years.

D. Lubowich on the "Future of Astronomy Online Databases": In the past databases were almanacs, tables, catalogs, and archives located at an observatory or library. Current databases are available via computer networks and offer object catalogs, results of space missions, and object-oriented or bibliographical data. Most of these are free to astronomers with the exception of some abstract and bibliographic databases, e.g., Physics Abstracts (including A&AA as of 1995), Science Citation Index, and Current Contents. In the future, full journal articles, catalogs, data from sky surveys, space missions, or from major telescopes, etc. will be available on-line or on low-cost storage media. As the technology becomes faster, more available and cheaper, the major expense will be the astronomer's time in locating, obtaining, and assimilating the data. This will require simultaneous searches of multiple databases using intelligent software and search strategies because of the abundance of astronomical data.

P. Boyce reported on electronic publishing as it is proceeding at the American Astronomical Society. The philosophy is to plan thoroughly, but be flexible by taking small steps and getting feedback from the users. Publishing involves six steps; 1) Author Preparation and electronic submission, 2) Editorial Processes, 3) Typography or the electronic equivalent, 4) Database Preparation, 5) Dissemination of multiple "products," i.e. paper, screen readable, CD-ROM and local printout, 6) Archiving and 7) Collecting Revenue. Abstracts for meeting papers require all these steps and serve as the first step in moving to electronic publishing. After two years, 98 percent of AAS meeting abstracts are submitted electronically and are available over the Internet before the meeting. The next AAS journal to go electronic will be the ApJ Letters, with the first demonstration in Jan. 1995, and production of a prototype journal before 1996.