G. EDITORIAL POLICIES AND NOMENCLATURE

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EDITORIAL POLICIES

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ABSTRACT

A short summary of the way the main astronomy journals are produced is given. The different ways of publishing a scientific journal are described, their advantages anddrawbacks are discussed and some projections towards the future are made. We finally deal with a few specific editorial topics : publication of large collections of data, designation of astronomical objects, indexing and retrieval of information.

This paper reflects my opinions concerning what a journal like Astronomy and Astrophysics is presently doing, could reasonably do and will possibly do in the future in order to publish the material submitted by the astronomical community. I have had contacts with Prof. B.J. Tayler, the Managing Editor of the Monthly Notices of the Royal Astronomical Society, and some of his opinions are conveyed here.

1. PRESENTATION AND COMPARISON OF THREE MAJOR JOURNALS OF ASTRONOMY AND ASTROPHYSICS.

There are a large number of journals in astronomy and astrophysics, some of them being highly specialized (e.g. Celestial Mechanics, Solar Physics) or containing only review papers (e.g. Annual Review of Astronomy and Astrophysics, Space Science Reviews). It would make no sense to compare journals which are not comparable. I thus decided to restrict the comparison to the three general journals which according to the Science Citation Index have presently the largest impact on the development of our Science : Astronomy and Astrophysics(Europe). The Astrophysical Journal (USA) and Monthly Notices of the Royal Astronomical Society (U.K.).

The following table gives the basic information concerning these journals. The information on the letter section is merged with that on the Main Journals ; however I found it useful to separate the information on the Supplement Series, which publish mainly data : this information is

C. Jaschek and W. Heintz (eds.), Automated Data Retrieval in Astronomy, 187–191.

given in italics when different from the corresponding one on the Main Journal. Monthly Notices has no more Supplements but publishes data on microfiches inserted in the Journal.

	ASTRONOMY AND ASTROPHYSICS + *SUPPL. SERIES*	MONTHLY NOTICES OF THE R.A.S.	ASTROPHYSICAL JOURNAL + *SUPPL.SERIES*
METHOD OF PRODUCTION	Composition, Camera-Ready from author *Camera-ready* from printer.	Composition *Microfiche*	Composition *Composition*
MICROFICHE EDITION	Yes *No*	No *(yes)*	Yes *Yes*
Nr OF PAGES IN 1980	4540+180(letters) *1600*	3800+275(letters) *4 microfiches*	8690+1385(letters) *1840*
PAGE CHARGES	No for Europeans yes for others	No	Yes
EDITORS IN CHIEF	2 + 1 (letters)	Decentralized Editorial Board	1 + 1 (letters)

I now summarize in the following table the advantages and drawbacks of the different possibilities for producing scientific journals.

WAY OF PRODUCTION	ADVANTAGES	DRAWBACKS
COMPOSITION	- Nice looking ; many possibilities(types, formulae)	- Expensive ; manuscripts are typed at least 2 times.
CAMERA-READY	- Inexpensive (≃ 2,5 times less as composition) ; manuscripts typed only once with modern text-processing facilities. Author responsible for text.	- Less nice-looking, limited possibilities compared to composition. Burden lies on authors if have only standard typewriters.
MICROFICHES (always from camera-ready manuscript).	- Very inexpensive(≃15times less as composition). Takes little room on shelves.	- Need reader /copyer. Long-term behaviour may be bad. Authors generally very reluctant.

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In view of the previous table, I think that classical composition from a typewritten text prepared by the author is likely to disappear in a not-too-remote future. However a possible way to save the advantages of composition would be that the printer makes the composition from a magnetic tape supplied by the author. This is in principle already possible but the lack of standardization of existing equipments hampers an extensive use of this system; camera-ready production may be a more satisfactory solution, although somewhat heavy for those authors who do not have access to a modern text-processing facility. Several astronomy institutes are however presently equiped with such facilities which allow easy corrections, margin justification, etc.. The softwares for producing formulae need improvements, but the situation is rapidly evolving. The price of a machine suitable for scientific editing is in the range $ 20 000 - 30 000. Camera-ready production by the author is meeting with some success at Astronomy and Astrophysics. The microfiche way is apparently accepted by astronomers only with extreme reluctance in spite of its enormous advantages, mainly for psychological reasons (an author likes to see his/her work in print !).

In the long run, it may well be that most or all of the scientific information will go on central magnetic-support libraries which can be interrogated by computer terminals. A commercial solution has already been developed in the USA. Although tempting, this system might not be accepted for the same psychological reasons as microfiches, and is particularly unfair for underveloped countries. Moreover halftone figures and even graphs correspond to large quantities of information which cannot be stored and transmitted as easily as the texts themselves; this serious technical problem has to be overcome before centrally computerized journals can be considered as acceptable.

I now discuss more specific points of interest in connection with the subject of the Colloquium.

II. PUBLICATION OF LARGE BODIES OF DATA

The publication of large catalogues, collections of pictures or drawings etc.. is a very expensive thing even if as usual the material is presented by the author in a form ready for publication. Already we tend to reduce the size so that the types are at the limit of readibility with the naked eye (microprint of 0.7 mm size); Astronomy and Astrophysiks also asks for a financial contribution from the authors if their paper is very long (say larger than 50 printed pages).

Should we stop publishing big catalogues ? Certainly not since they most often contain the basic data of our science. The question is rather : to which extent should catalogues be published in printed form ? As I said earlier, it is the experience of Prof. Tayler and myself that the authors are reluctant to publishing on microfiches. Data centers as the CDS in Strasbourg offer a better solution ; however they are not a universal panacea. Not every institute is connected by

a terminal to the CDS, and sometimes interrogation of the computerized files is an heavy process if one only wishes to retrieve partial information on a few objects : in these cases, a catalogue on paper is certainly more handy. Finally information like graphs,maps, halftones, complicated formulae cannot be put on magnetic tape, and we find here the same problems as for computerized journals in general. It seems that for a long while a large fraction of the data will still have to be published on paper (or possibly microfiches) in spite of the heavy cost of the process.

III. DESIGNATION OF ASTRONOMICAL OBJECTS

Astronomical designation has always been a case for confusion as discussed elsewhere in this symposium. Practical solutions are presently elaborated in which any fixed astronomical object will have an unambiguous designation, probably based on celestial or galactic coordinates, which will supplement the present common designation(s). The Editors of Astronomy and Astrophysics and of Monthly Notices are certainly willing to comply with the new rules by making sure that any object cited in the papers has an unambiguous designation. They are also willing to recall as foot notes the meaning of abbreviations of the catalogues of celestial objects used in the papers they publish. As a concrete proof of this good will, may I recall that Astronomy and Astrophysics is financially participating (with IAU) to the publication of the Catalogue of the Nomenclature of Celestial Objects by Fernandez, Lortet and Spite, which will be a special issue of the Supplements.

However one should realize that checking that the authors actually comply with the new rules and/or helping them to do so will represent a rather formidable task for the editorial offices. We simply do not have at present the personel for doing that, and I can only be skeptical about the possibility of having the rules applied strictly in a near futur.

IV. INDEXATION OF ASTRONOMY PAPERS, KEY WORDS.

It is clear that indexation of papers (generally made through the use of key words) is essential to the retrieval of the scientific information they contain. Unfortunately the situation in this respect is one of complete anarchy. For example, Astronomy and Astrophysics and The Astrophysical Journal each have their own thesaurus of key words ; both are different from the one used e.g. by Astronomy and Astrophysics Abstracts, etc.. Monthly Notices has no official one !

This situation can be explained by several considerations i) A thesaurus has to be adapted to some specific need and should be continuously evolving to follow the development of science ; for example, a list of key words built for preparing an annual subject index is not adapted to the needs of an Abstract journal which has to restrict severely the number of keywords per paper ; conversely, a scientist doing a bibliographic search in a specific field would like to retrieve small pieces

of information hidden in many papers and prefers a very extensive list of key words for each paper, ii) No thesaurus is proven to be definitely better than the others. The sub-thesauri for astronomy included in the general physics ones are usually not detailed enough even for the needs of an Abstract journal.

I have not magic solution to offer to this problem, which however might not be as serious as one would think at first glance. I fear that no change, even if decided by a scientific body as representative and respected as IAU , would be universally accepted ; the lists of key words that each Journal uses have been elaborated through years of practice of the successive editors, and are used by the printer in a computer program for preparing the subject indexes ; any major change at the printer's office looks as a big affair when seen from the Editor side !

V. CONCLUSION

I am afraid that the present paper has raised many more questions than it has solved. I sincerely hope however that it will provide the astronomical community with a few basis for its thinking on the major item of scientific publication.

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