

# INTERNATIONAL ASSOCIATION OF HYDROLOGICAL SCIENCES

## Final Report of the

### Task Force on Publications

June 15, 1995

#### **1. Introduction**

1.1 The Task Force on Publications (TFPUB) was set up at the IAHS Bureau meeting in Karlsruhe on June 25, 1994. The following terms of reference of the TFPUB were suggested by its instigator, Professor Uri Shamir, President of IAHS, and endorsed by IAHS Bureau:

- To examine the role of the Hydrological Sciences Journal, its objective, frequency, editorial policy and practices.
- To examine the editorial policy and practices of the Red Books.
- To examine the possibility of using electronic means for publishing and disseminating IAHS material.
- To suggest modifications for consideration by the IAHS Bureau.

1.2 The task force consists of four individuals: Mr. Mike Bonell, UNESCO; Mr. Frank M. Law, Institute of Hydrology, Wallingford, UK; Professor Ezio Todini, University of Bologna, Italy; and Professor Slobodan P. Simonovic, University of Manitoba, Canada. Prof. Simonovic acted as Chairman of the Task Force.

1.3 The task force has worked by correspondence. In addition to the terms of reference listed above, the Task Force decided to collect information on three other Journals in order to enhance the conclusions. Journals included in the investigation are: (i) Journal of Hydrology (JH); (ii) Water Resources Research (WRR); and (iii) Nordic Hydrology (NH). Information acquired about all journals covers: number of issues published per year; number of papers published per issue; number of submissions per year; average length of the review process; number of subscribers (institutions, private); and geographic distribution of subscribers. Collecting the information was more difficult than anticipated.

#### **2. Evaluation of publication practices**

##### **2.1 Hydrological Sciences Journal**

2.1.1 Analysis Hydrological Sciences Journal (HSJ) is published bimonthly by IAHS Press, Institute of Hydrology, Wallingford, UK. Main objectives of the HSJ are: to promote the study of hydrology as an aspect of the earth sciences and of water resources;

to provide for discussion, comparison and publication of research results; and to facilitate international cooperation.

In each year HSJ publishes 6 issues with approximately 6 papers each (average over the last four years) to total 36 papers per year. HSJ receives about 80 submissions per year with the review process extending up to 60 weeks referees reviewing 25; authors revising 12; acceptance of revised paper 13). HSJ is published in 769 copies from which 569 are distributed to institutional subscribers and 200 to private subscribers. The annual subscription rate is US \$160 and US \$80 for institutional and private member, respectively.

There have been criticisms of the level of some papers published in HSJ. Despite the great efforts of the Editor, the HSJ does not have status corresponding to IAHS ambitions. Comparative statistics are included in Figures 1 to 5. It is obvious that HSJ does not compare to JH or WRR.

2.1.2 Comments The main differences in publication practices between HSJ, JH and WRR are: (a) in number of issues per year; (b) in number of papers published per year; (c) total subscription; and (d) price. The feeling of Task Force is that these four issues are connected and can not be addressed separately.

The relative importance of HSJ and Red Books is a potential source of problem. All of the papers that the international community contribute at IAHS meetings are published in the Red Books, including contributions by leading scientists. While the same review standards are not used with the Red Books, some good papers get published there which might otherwise find their way into the HSJ.

Other Journals are using larger number of editors (JH four; WRR two) each of whom is in touch with a different segment of the hydrological community. Each of the editors operates in an independent manner. When a new editor comes on board, s/he brings new people into contact with the Journal. Having several editors, the Journals have several communities whose papers they publish. Editors of some Journals are well paid.

A citation study made some time ago indicated that HSJ is really a Third World Journal, and on that basis it does an excellent job. However, it is likely that HSJ provides a notable service to scientific exchange between the developed world and newly industrialized nations as well as much of the Third World.

2.1.3 Recommendations A call for improving the standing of the HSJ is appropriate. It is necessary to increase the flow of good papers to the journal. Some of the recommendations to be considered by the Bureau are:

- IAHS Bureau should rethink its policy about publishing all conference papers in the Red Books. One possible option will be to publish keynote/invited papers in the HSJ, and contributed papers in the Red Books. Another option will be to reduce the number of papers to be accepted for the conference leading to raise in quality of the Red Books.
- Make a mandatory requirement that IAHS Bureau and Comms officers contribute papers to the HSJ during their term of office.
- IAHS members should be urged to support the Association by submitting papers to HSJ.
- Coordinate with the editors of JH and WRR a stricter policy of acceptance, designed to meet and to deal effectively with the proliferation of papers.

- Carry out a citation index analysis in order to determine the background and location of both those scientists publishing in the HSJ and those citing it.
- Increase number of HSJ editors and instead of using a large pool of associate editors send the papers to be reviewed by scientists working in the field. In order to maintain a uniform acceptance standard, design a policy to be published and distributed to all reviewers together with the material to be reviewed.
- Reviewers should be asked to commit themselves to returning any paper which they cannot comment on within 3 weeks.

## 2.2 *Red Books*

2.2.1 Analysis Proceedings of symposia and workshops comprise the majority of publications in the Series of Proceedings and Reports known as the 'red books'. They are the oldest publications of the IAHS dating as far back as 1924. Over 230 titles have been published in the IAHS Red Books. Recently between 6 and 12 titles have been produced annually. Many of the Red Books are pre-published symposium proceedings. Papers selected for inclusion must be original, scientifically and technically sound, clear and brief, and selected for oral presentation. Before publication, the contributions to Red Books are reviewed and many of them are revised. Average price of Red Books in 1993 was \$ 70.

2.2.2 Comments Red Books are being reviewed by different editors and the same standards of refereeing are not being applied. Many of the Red Books editors were confronted with the 'dilemma' of high quality of papers versus wide international representation. Some good papers still get published in Red Books which might otherwise find their way to HSJ. The Red Books serve as a very valuable revenue source for IAHS. However, maximizing revenue in this way is having adverse impact on the HSJ.

Experience with other similar 'special publications' (like conference publication in JH or special issues of JH and WRR) is that they are always up to the normal standards of the Journal. Many conference papers are written simply in order to secure the author's attendance to the conference. Conference participants present their ideas and benefit from the comments at the meeting while the printed proceedings contain only abstracts or extended abstracts (up to 4 pages). Special journal issues follow a conference by 1-2 years for peer reviewing and revision of the papers. The final outcome can be that < 10% of all conference presentations get published by the journal.

2.2.3 Recommendations Publication of HSJ and Red Books should be looked at together. The following actions are suggested to the IAHS Bureau for examination together with the recommendations in section 2.1.3.

- The hydrologic community can produce only a finite number of papers. Most of IAHS contributions are being divided between HSJ and Red Books. The conflict will exist until a fundamental change of policy on the relative importance of the Red Books and the HSJ is introduced.
- Leave things as they are. Both HSJ and the Red Books are doing an excellent job at a different level of prior scrutiny than JH and WRR. (It has been noted that several papers rejected by HSJ have subsequently appeared in JH, indicating that the standards

may not be very consistent). Enhancing standards for HSJ and the Red Books would require some alternative means of printing the material to be presented at the IAHS symposia.

- An idea submitted to TFPUB is to extend the role of IAHS Press to the publication of 'real' books. Such a decision would affect the revenue structure of IAHS and allow for enhancement of HSJ quality and reduced number of publications as Red Books. Many IAHS members are involved in editing and writing technical books. If these books end up being published by IAHS Press the quality of printing (text, graphs, color pictures, etc.) will need to be enhanced. A prerequisite condition should be very high scientific quality. It should be the policy of IAHS Press, when publishing such books to produce a larger number of copies than usual at a lower price than usual securing a wide distribution of the books. This may raise financial risks and storage demands. Thus, careful planning will be required prior to this policy shift. It can however be introduced gradually with appropriate staff planning.

### *3. New Directions - Electronic Publishing Era*

World Wide Web; Electronic Journals; Journals on CD Rom;.....What? Whence? and When? The publishing technology is changing. Over the past two decades printing, paper, and transportation costs rose while their electronic counterparts: computing, electronic storage, and communication costs halved approximately every four years. Both trends are expected to continue. Today we can scan a printed book into electronic form, then distribute it over the phone or internet in minutes to hundreds of people at virtually no cost (other than that of a server and an able operator). We can produce books and manuscripts electronically and we can augment them with by adding sound, motion pictures, and automatic cross-referencing. Electronic publications can be easier to distribute, less expensive, less risky, more powerful, more flexible, more immediate, and easier to search and collate. They can also be interactive, changeable and adaptive.

TFPUB took on an overwhelming task of looking into the future. Just scratching the surface unveiled an amazing amount of information. At the end of 1994 about 1800 scholarly lists and some 440 electronic journals were available on the Internet. An increase in size of 70% annually is the rate noted in the field of electronic publishing. Therefore this report will be very sketchy in describing the real world and providing suggestions to the IAHS Bureau. Much more serious time commitment and effort will be required to create the real picture.

#### *3.1 Analysis*

Two main trends are noticeable in many technical fields: (a) use of CD Rom technology; and (b) use of the Internet (Figure 6). CD Rom technology is a logical extension of past publishing practice. It is an effective media for storing massive amount of information. In the technical field many professional associations, publishers and others are using CD Rom for transferring abstracts, journals and discussions into the new era. The high quality electronic medium allows users to rapidly and accurately search journal papers, discussions, and technical notes. Technology provides for addition of full-text search

functions with all graphics. Some examples to be mentioned are the Journals of American Society of Civil Engineers and NATO scientific publications published by Kluwer.

The use of Internet is more complex. At this moment many electronic journals are being developed and made accessible through internet. Screening the list of journals and their publication practice was beyond the capability of TFPUB. Many other alternative ways of disseminating scientific information are being used on the internet. One of very popular ways is the development of information networks on the Wide World Web. Networks are used to provide information about the source, and in the same time, provide access to different sources. One example is the Universities Water Information Network. Many specialized groups are using the Internet to exchange experience, discuss important issues, share resources and data. This form of communication has been established through the introduction of 'user groups', 'discussion groups', and 'bulletin boards'.

### *3.2 Initiatives of Organizations Related to the Science of Hydrology*

UNESCO has been charged with taking a leading role in exploring the potential of electronic media for dissemination of scientific information. In particular: (a) UNESCO should make Internet connectivity available to scientists in all countries at the lowest possible rate (see the map in Figure 6); and (b) UNESCO should assure the necessary leadership to effect a rapid global shift to electronic publication of scientific material. One of the resolutions of eleventh session of the intergovernmental council of UNESCO IHP has been to proceed with distribution of IHP information through electronic media when a Local Area Network is completed.

All of the mentioned efforts are indicating the intention to proceed with exploring electronic publishing as a vehicle for more effective transfer of scientific knowledge. However, the results are not yet evident (at least to the members of TFPUB).

### *3.3 Important Issues*

Considerable body of literature is available on electronic publishing. Some of the interesting documents are enclosed in Appendix A of this report. TFPUB recommendation is for IAHS Bureau to obtain the results of the study in progress at MIT Press on the development of an electronic Chicago Journal of Theoretical Computer Science and involve an external consultant to evaluate the study for the IAHS. MIT Press got a grant to develop this Journal as a model electronic publication on the net.

3.3.1 Issues From the material reviewed by TFPUB and participation in one of the discussion groups on the Internet, the following set of issues has been identified for the IAHS Bureau to discuss:

- legal issues related to electronic publishing (information infrastructure; multimedia licensing);
- selection of the appropriate medium for electronic publishing (software; standard is missing; MIT Press is introducing LaTeX format) and medium for journal access (hardware server and its location);
- selection of services (access to papers; search through references; computer code transfer; etc.)

- charge rates for different services;
- editorial policies and practice (medium allows larger editorial body; 'consensus' approach versus 'most knowledgeable' participant);
- subscription management (in electronic form).

**3.3.2 Benefits** The main benefits which can be achieved by switching to electronic publishing are: (a) fast turn-around of research findings (about two months from submission to publication); and (b) considerable savings compared to classic publication of the journals. MIT Press project introduced a new journal using a grant of \$150 000. Subscription rate is set to be \$125 for which institution libraries are licensed for a wide range of uses of the journal. This rate will be sufficient for permanent support of this cost-based rather than market-priced format.

### *3.3 Recommendations*

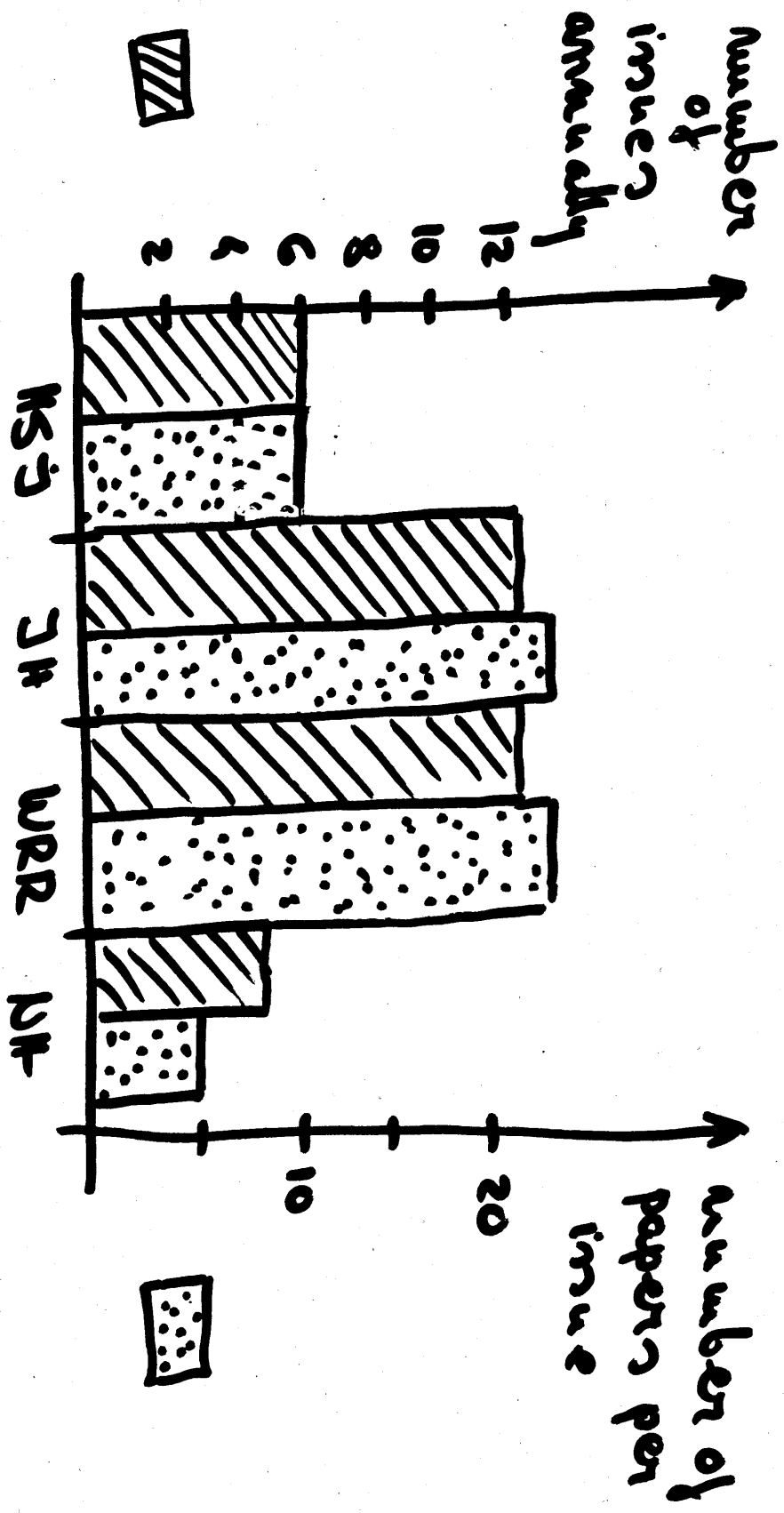
TFPUB has come to following set of recommendations. However, further detailed technical investigation will be necessary in order to make the switch to electronic publishing. Investigation process should be initiated by the members of IAHS Press. Recommendations of TFPUB are tailored for easy transition from current publishing to electronic publishing practice:

- establish a home page on Internet and so publicize the activities of IAHS more widely;
- make abstracts of papers published in HSJ and Red Books available on the net so that people searching for information on a particular subject would have an easy access to IAHS sources;
- develop the CD ROM searchable index to the titles, authors and abstract keywords of the IAHS publications;
- develop the CD ROM containing abstracts of the papers published in HSJ;
- develop the CD ROM containing abstracts of the papers published in Red Books;
- develop the CD ROM containing HSJ papers;
- establish the software and hardware standard for electronic publication of IAHS information;
- perform slow transition from CD ROM to electronic publication of HSJ. Transition period of three years is suggested (this period should be used also to modify the role of HSJ and Red Books);
- after three years continue publishing strong HSJ in electronic form with rotating editors from the leading group of hydrological scientists;
- after three years continue publishing Red Books in the electronic form with the limited length of papers (up to 5 pages) as pre-published documents for IAHS Symposia and Workshops.

### *Acknowledgments*

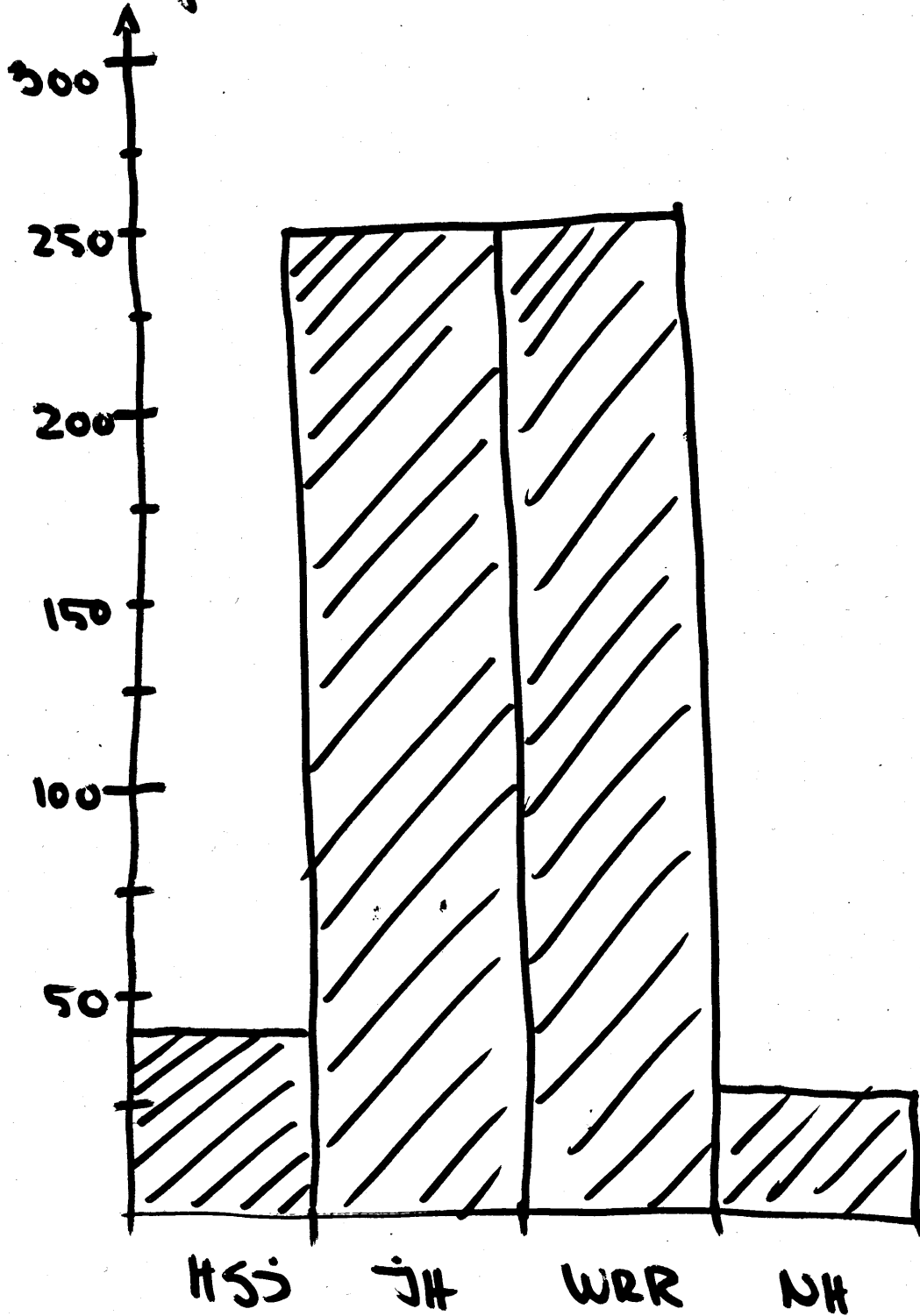
Input of IAHS Press, current and recent editors of Journal of Hydrology and Water Resources Research is gratefully acknowledged. We would like to acknowledge the comments provided to us by Prof. Uri Shamir and Prof. Terrence O'Donnell.

# COMPARATIVE ANALYSIS OF JOURNAL PUBLICATIONS



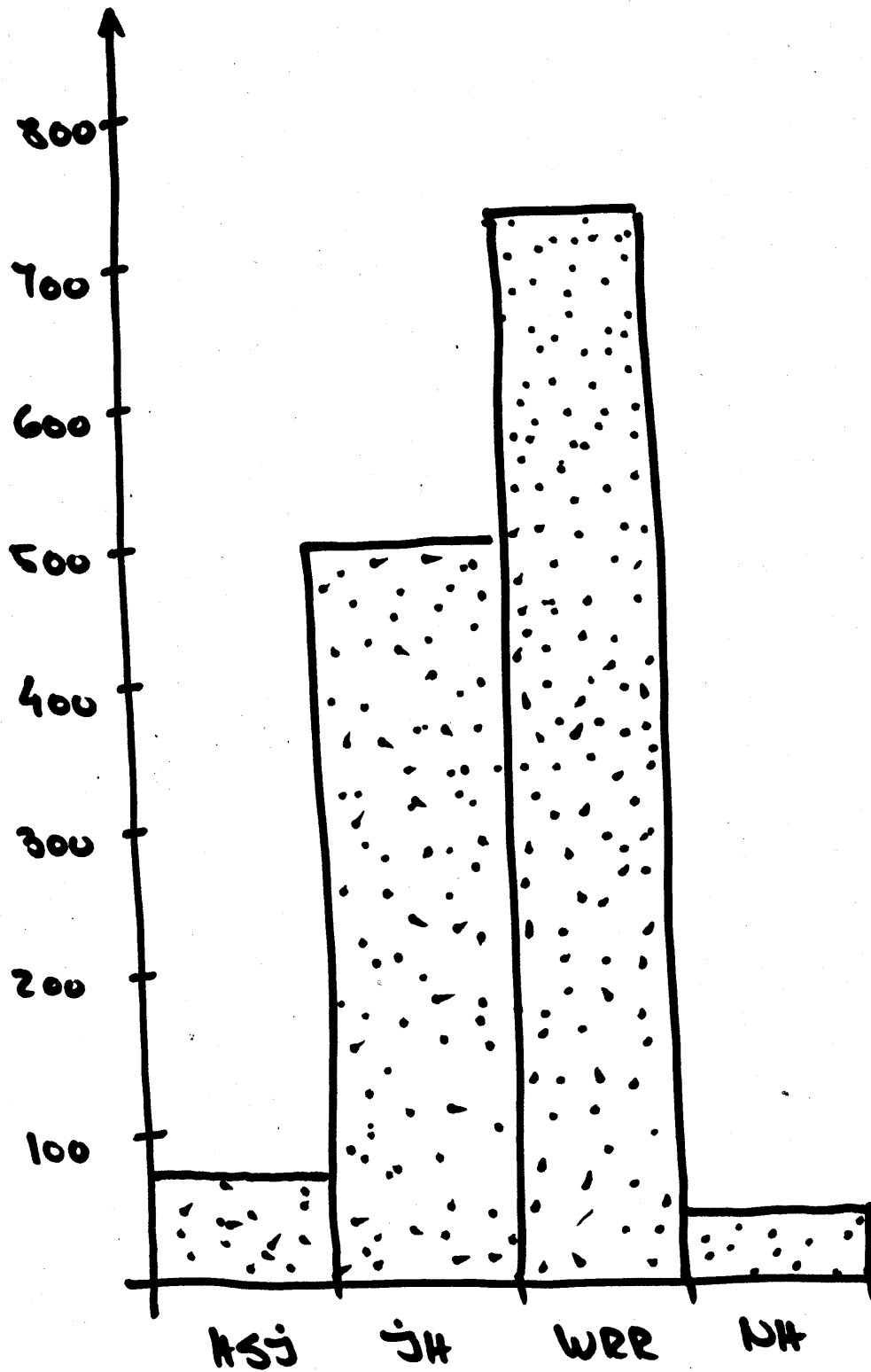
# PUBLICATION RECORD

number of papers / year



# INTEREST IN THE JOURNAL

number of submissions/year



# JOURNAL SUBSCRIPTION

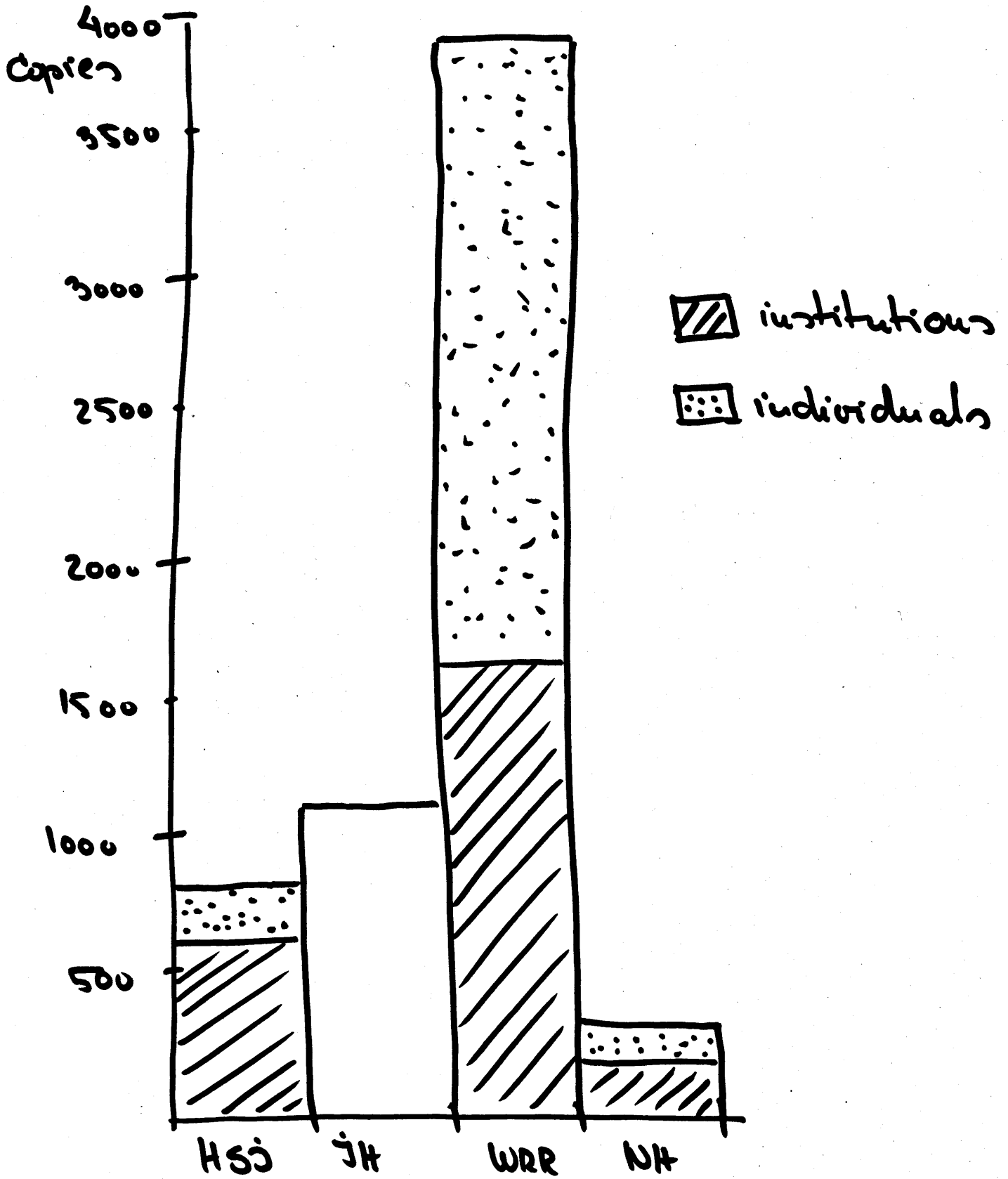
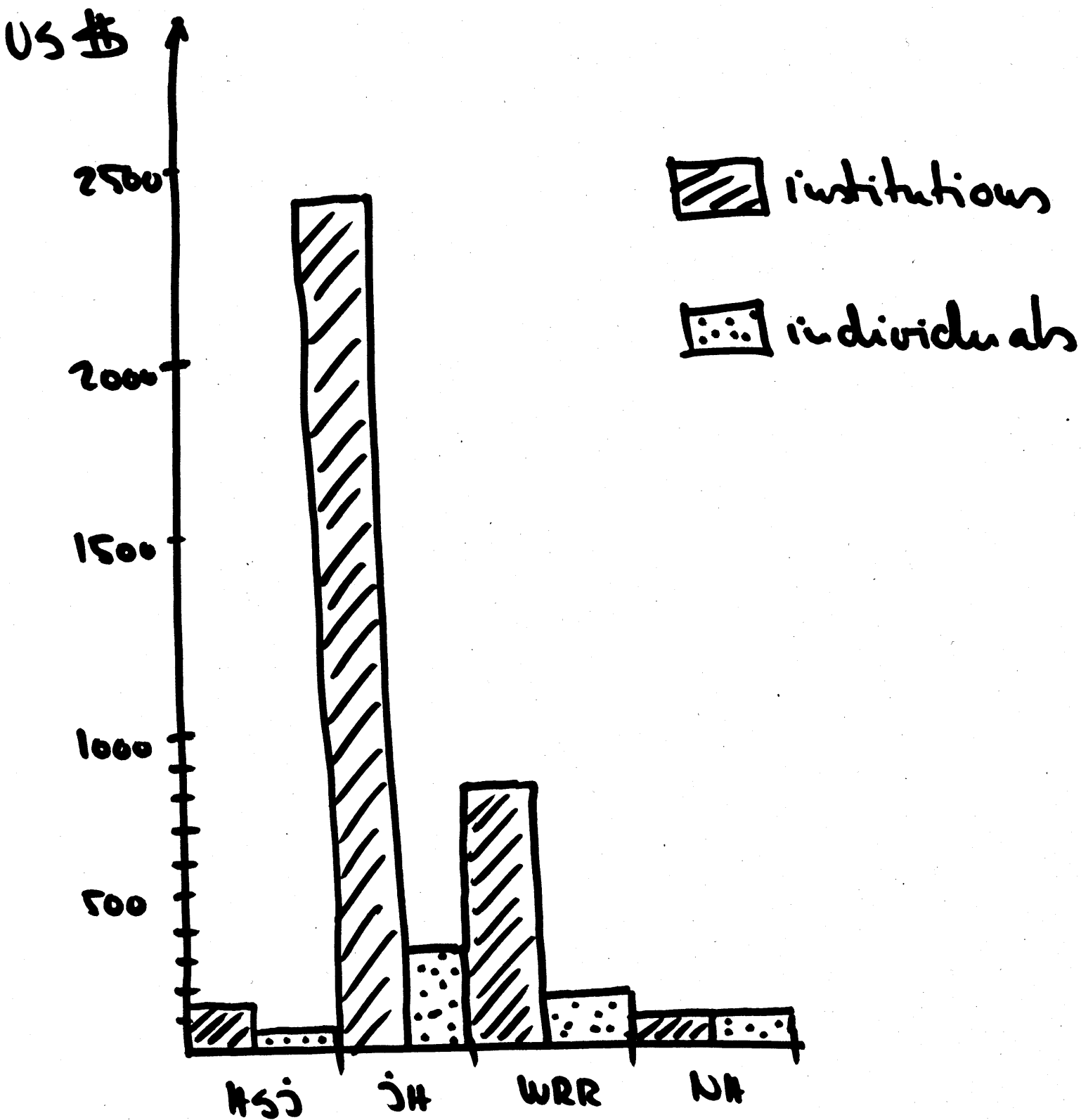
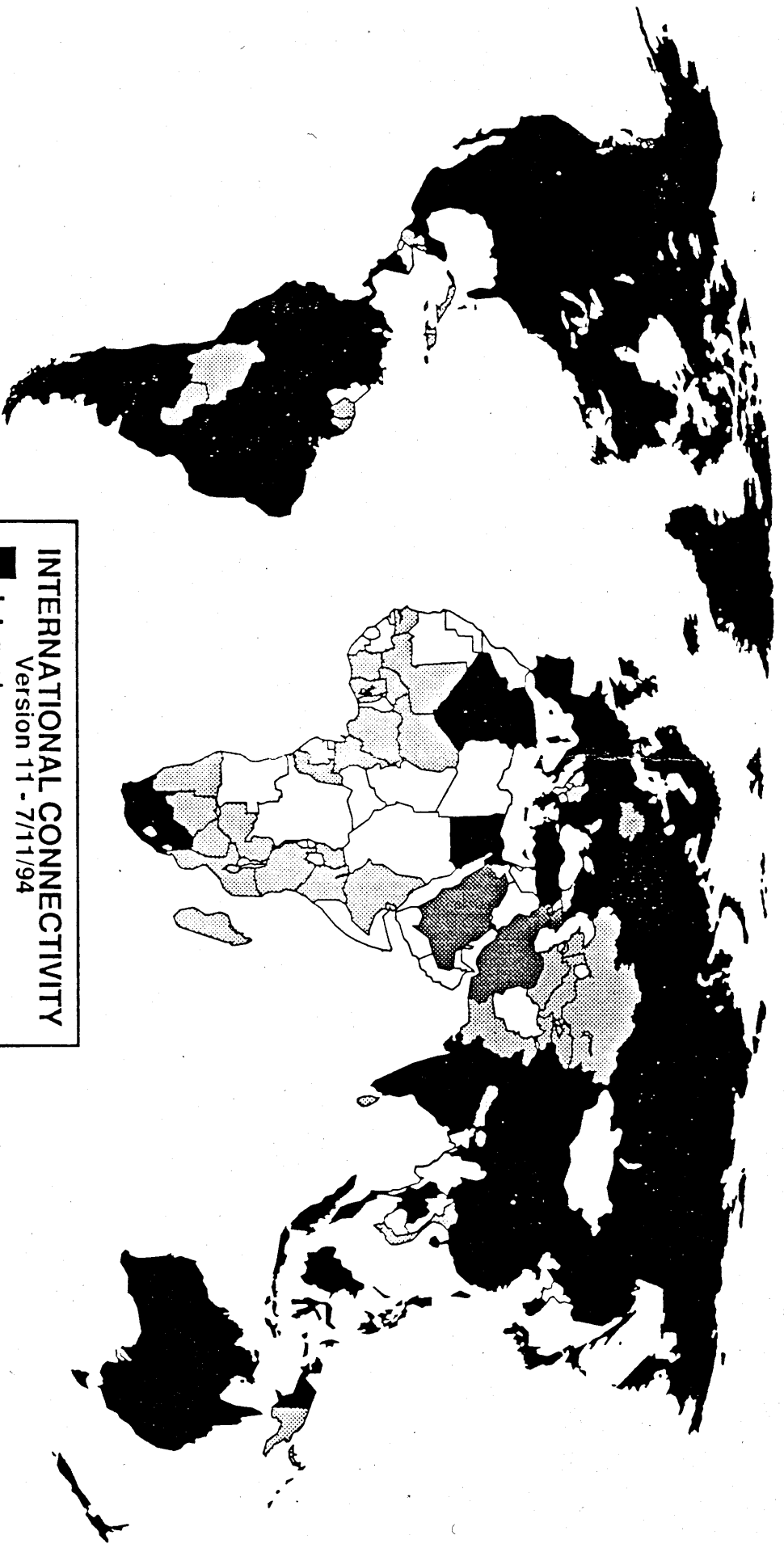


Figure 4

# JOURNAL PRICE





**INTERNATIONAL CONNECTIVITY**  
 Version 11 - 7/11/94

- Internet
- Bitnet but not Internet
- Email Only (UUCP, Fidonet, or OSI)
- No Connectivity

This map may be obtained via anonymous ftp  
 from <ftp://cs.wisc.edu/connectivity/itable directory>

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