

Changing the Galaxy: On the Transformation of a Printed Journal to the Internet

by Hans-Christoph Hobohm

The development of electronic publishing has often been described as beneficial for authors, readers, and publishers. The present article provides a real example on how a small academic revue takes advantage of some new possibilities but shows also the new problems encountered using them. It turns out to be not always so easy and not always to the benefit of its subscribers to change a publication mode from print to electronic. Some technical aspects are discussed and the special economical model for the electronic version is presented.

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What is INSPEL?

Let me start by introducing the journal which may not be familiar to everyone. The International Journal of Special Libraries INSPEL which now is in its 31st year calls itself the "Official Organ of the IFLA Division of Special Libraries". It appears four times a year with approximately 300 to 400 pages totally and about 40 to 50 contributions. Hence INSPEL is one of the major publications of the International Federation of Library Associations and Institutions (IFLA). Its main task is to publish the best papers which have been delivered in the meetings and conferences of the six sections belonging to the IFLA Division of Special Libraries (Government Libraries, Social Science Libraries, Geography and Map Libraries, Science and Technology Libraries, Biological and Medical Science Libraries, and Art Libraries). Contrary to other "organs" of associations or societies it nearly entirely lacks the "news and information" part of a newsletter because each of the sections publishes its own news brief.

The Editorial Board essentially consists of the actual chairpersons of the sections in the Division. Typesetting, printing, and distribution is done with the institutional support of the German Association of Special Libraries (ASpB) at the Berlin Technical University. Two representatives of ASpB are also members of INSPEL's Editorial Board. The reviewing process is done with the assistance of each section's standing committee and their respective conference organisers. Mostly the articles are only roughly grouped by sections and themes because either page limitations do not permit INSPEL to publish all relevant texts of a section in one number or in other cases there is not enough sufficient copy from a single section to fill an entire issue. On some occasions a whole issue is devoted to one meeting or topic of a specific section; for instance a recent issue of INSPEL collected papers from a seminar of the Geography and Map Libraries Section on the conservation of maps in Moscow.

Before [IFLANET](#) - IFLA's World Wide Web presence - developed one of INSPEL's most important tasks was the mere distribution of the IFLA conference papers relevant to special libraries. Another function still remains crucial in this age of globalisation of telecommunications namely the role of a filter and editor of texts in terms of quality control. So it is not just a duplication of the IFLA conference proceedings but an academic journal with a defined source for its articles (See point 2 in the list of Boyce and Delatrio, 1997). On the other hand, INSPEL publishes not only papers from the main IFLA conferences but also from other activities of the member sections of the Division. The proportion of articles directly submitted and published by INSPEL is rather small and will always be limited because of space reasons.

The journal subscription rate is 80 DEM plus postage which with the actual number of ca. 150 subscriptions world-wide roughly covers the cost of typesetting, printing, and distribution. The editorial process itself is not remunerated nor do the authors receive any fee. The most important part of the editorial workload consists of language and manuscript correction. Since IFLA meetings are being hosted by different countries all over the world, the journal is open to a wide range of nationalities who sometimes have only little - or no - experience in writing academic papers in English. At the beginning INSPEL intended to publish in all of the official IFLA languages - English, French, German, Spanish, and Russian - which turned out to be too difficult for technical (typesetting of Cyrillic characters) and editorial (the Editorial Board should be able to read all texts) reasons. My opinion is that this multilinguality was one of the reasons for a rather low distribution rate world-wide. In the most recent volumes INSPEL has tried to concentrate on texts solely in English in order to broaden the readership in the world.

Generally speaking INSPEL serves the community of special librarians in a very broad understanding within and outside IFLA by selecting, editing, sometimes translating, and publishing what is being discussed in the IFLA context. By this means it is one of the very few reviews in the world devoted generally to the work of special libraries (Schroeder and Roberson, 1995). Having international special librarianship as its topic INSPEL has to deal with all the advantages and drawbacks of this rather vague concept. The most important characteristic which differentiates INSPEL from most other library journals is the fact that it recruits authors from all over the world, reporting on the situation of special libraries in a great range of cultures and settings. Where else can you read about the re-invention of special librarianship in former Soviet countries or about the information policy of the Chinese Academy of Social Sciences? One of the future goals of INSPEL should be to collect more and more parts of a general picture of special librarianship in most countries in the world or at least on all continents.

Looking at a general description of the functions of an academic journal - as described by Fytton Rowland (1997) - one can state that the print version of INSPEL serves them all well even though it is a rather small journal in terms of distribution.

Figure 1: Functions of an academic journal

1. Dissemination of information
2. Quality control
3. Canonical archive
4. Recognition of authors

(Source: Rowland, 1997)

It disseminates information all over the world at least by the means of the interlibrary loan systems in most regions of the world since its subscriptions distribute very widely. The reviewing and the editing process guarantee a high standard quality control and the fact that most of the subscriptions go to libraries warrants the archival function as long as these institutions pay attention to it. The

recognition of authors still lies in the print publication itself as long as every potential reader is able to access the article by the way of interlibrary loan or through personal offprints from the author.

The Electronic Edge

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With the propagation of network based telecommunication and the new publishing tools within the Internet one can at least question the first function in Rowland's list. Is the distribution of print still a convenient medium for the dissemination of information? The growth of the overall number of electronic journals seems to confirm that we are facing a general change of the scientific communication process (Boyce and Dalterio, 1996). Especially in the last two years the number of mere e-journals or electronic versions of academic journals has increased so considerably that one can say that it has gained a firm place in the scientific communication and information business. Starting with the natural sciences (especially the physics community with their now famous Los Alamos e-print server), the electronic distribution of scientific texts is now common practice. One can speculate from the indications of the latest edition of the *Directory of Electronic Journals, Newsletters and Academic Discussion Lists* that in 1997 the proportion of academic journals being or going electronic may reach 5 to 10% of the total production of academic journals world-wide. Considering the fact that the directory does not mention all the enterprises undertaken either by individuals or commercial publishing houses to present a parallel electronic version of the journal one may even come to a much higher proportion of academic journals being online. Whether or not the paradigm change will affect the complete scientific publishing process immediately and to what extent may be disputable (Sosteric, 1996; Rowland, 1997; Harnad, 1997). A fact is that the new communication channels do exist and more and more scientists will want to use them. Having this in mind it was just a natural decision to offer an electronic version of INSPEL too.

In the era before Internet - and especially before IFLANET - it was sometimes very difficult to obtain papers delivered at IFLA meetings when you did not get the conference booklets, that is securing the papers at the conference itself. In some countries you had to address your request for a copy of a paper to a national depository point where you had to pay a considerable sum for each paper processing. With IFLANET this has dramatically changed so that one can say that IFLANET plays both the role of a pre-print server for IFLA and of a distribution centre for copies after the conference. This means for the print version of INSPEL, Rowland's first function - world-wide distribution - would not work if the number of papers not represented in IFLANET (e.g. the workshop papers or papers from pre-seminars or other external meetings) was not large enough. Yet the other functions of an academic journal remain valid despite other new distribution media. Because of the particular needs of the international readership of INSPEL there will still be the need for a printed distribution of information at least for a certain time. One of

the main objectives of IFLA is indeed to serve the whole library community. Of course this means in our times providing information as well to the "information poor". I presume it will take quite a while until everyone in the world can be served with copies of INSPEL in electronic form. Think of the famous "last mile problem." It may be easy to connect a whole country to new telecommunication systems but the connections for the last few meters - to reach a specific user - may be insurmountable. Especially among developing (from which a big proportion of our subscriptions come) this may be an important argument for upholding the print version for a certain and perhaps much longer period of time.

Some see electronic journals threatening the normal development of a "canonical archive" for a given academic journal (Norek, 1997). Unless the problem of archiving electronic publications in general will be solved, libraries have to be aware of their crucial archival role in scientific communication. Either they continue to subscribe to even small journals (which may be often not so expensive) or they will invent some procedure to archive electronic texts in order to keep them accessible well into the distant future. In fact this archiving issue is a special aspect of the long-running "access vs. ownership" debate. Neither INSPEL's editors (officers in the IFLA Division of Special Libraries) nor the Editor-in-Chief or the publisher can guarantee long-term archiving of all of the electronic issues of INSPEL. Unless this problem is solved, there has to be a print version of the journal.

The other functions of an academic journal, namely "quality control" and "recognition of authors" remain untouched if the general editorial procedures stay the same in the electronic environment.



Going Online

The decision to publish an electronic version of INSPEL was easily taken as well as the decision to keep the print version alive as long as possible too. We considered the possibility that going electronic might "kill" the print edition because at least typesetting is not subsidised by any affiliated institution. But several reported experiences (Norek, 1997) from other journals encouraged us to go online.

Even without electronic competition, we saw subscription rates already going down while printing costs were rushing up. Therefore an electronic edition could eventually be a last resort if it was already functioning. The question was only to choose the technical formats and procedures. With the help of the example of IFLANET and an easy-to-use HTML editor, the first issue was quickly online. It received positive comments by some readers. Problems arose with the next issue when the easy translation to HTML markup was no longer possible because of graphics and an exotic word-processing format. With the aid of a project grant from IFLA, an investigation was launched. Other formats often used for electronic journals like Latex, TIFF or BMP presented nearly the same inconveniences as INSPEL already experienced. We searched for a publishing tool which could easily be used within the existing typesetting and editing procedures based on Microsoft Word. Compared to most solutions, HTML was still one of the favourites, if only post-editing could be reduced.

Finally the tool chosen was Adobe Acrobat's "portable data format" (PDF) which not only could be smoothly integrated in the existing typesetting process but appeared to have several other advantages for electronic publishing (MacColl, 1997). Simultaneously, when the camera-ready copy of each article is printed on a high-resolution laser-printer an "Internet-ready" PDF-copy is "printed" electronically with Acrobat Writer on the same computer. The only additional work

which has to be done subsequently for electronic publication is uploading these files on the Web server and linking them on an entry page for each issue.

The main advantage of Acrobat is that it can easily handle graphics and pictures as well as tables and other typographic difficulties (such as accents). Unlike other ordinary picture formats it is not a simple image version of a printout but remains searchable text. It conserves exactly the page layout so that anyone who has downloaded an electronic version of an article will not be able to distinguish between an ordinary photocopy from a printed version and the printout of the PDF file. This is to me one of the major arguments for choosing Acrobat because it means also conserving page-wise citability of an article. Still another important point is the possibility to secure a PDF file against unauthorised alteration. It has often been said that one never knows what one gets out of the Internet. Acrobat avoids installing some complicated authentication mechanism while nevertheless warranting the authenticity of the text.

A new feature from the electronic world which convinced with the HTML version is the possibility of linking references or other external material in hypertext manner. It would have been desirable to include this post-Gutenberg element in the electronic version of INSPEL. Indeed this is also possible with Acrobat necessitating only little post-editing. But that could be accepted since this is really adding value (I disagree with MacColl (1997) on this issue who argues that this feature is still limited). With Acrobat Exchange you can easily add proper hyperlinks which are correctly handled by the latest versions of the common Web browsers.

Marketing Consequences

Publishers could differentiate their market by the timeliness of delivery but very few do so.

Varian (1996) unintentionally suggests an analogy with the pricing strategy in book publishing business where the availability of a hard cover version comes in advance of the less expensive paperback. Those who really want and need the contents of a book in its cloth-bound form will not wait for the paperback. The publishing practice of academic journals is just the opposite: mostly the electronic version is available first: sometimes long before the print version is out. But the publishing strategy of the book business could solve some of the problems faced by the publishers of existing print journals looking to migrate online. They could differentiate their market by the timeliness of delivery but very few do so. With INSPEL the electronic publication of an issue occurs some time in advance of print delivery because the classical printing process and postal distribution of printed issues still takes a great deal of time. It would have been possible to wait a certain amount of time to upload articles in order to conserve, as Varian suggests, the value of greater timeliness for the printed version. But research in library and information science is not like research in the natural or physical sciences where every week seems to count in the publication process.

So, the decision to have a parallel publication at the same time raises the question of how to generate revenue for the electronic version. Rowland (1997) points out that there will always be need for professional staff for administrative and sub-editorial

duties; therefore the journal "cannot be free, unless subsidised". As demonstrated above the extra cost for the electronic version is rather minimal. More important though is the potential substitute effect for the print version and its subscriptions when the electronic version will be free. Since the electronic publication process depends on the typesetting of the print version this will be the crucial point to observe and eventually to be compensated. And typesetting costs reach at least a third of the total expenditures from which printing and distribution costs can in fact only be deducted when there is no print version at all. As you all know: the first copies to print are as expensive as the next hundred. Therefore it is obvious that the electronic version cannot be without any income even if it does not really cost much at the moment.

First we considered several strategies of limiting access to the files by distributing pre-paid passwords to subscribers. But this turned out to be very time-consuming and technically not a trivial problem. Besides, we observed at the same time interesting changes of the publishing policy of a related journal. [First Monday](#) - published by the renowned Munksgaard publishing house in Copenhagen - started 1996 entirely from scratch announcing that it will be an electronic subscription journal at the beginning of 1997. Therefore every reader had to sign up and was given a password although if it remained free. My personal experience was that in order to check new issues of the journal I had to sign up several times because I simply forgot my password. Perhaps this was one of the reasons which made Munksgaard change the policy from a subscription based to a sponsored - based on advertisements - journal.

This was also the tentative model chosen for INSPEL with some important differences. We are not only seeking sponsors or advertisers paid by number of hits to their banner ads placed on the virtual pages of INSPEL. This area of the electronic market is yet too uncertain and not so well established that it could represent a firm source of revenue. Possible advertisers are still not yet experienced with this new marketing tool as are those offering advertising space in the Internet. The problem for an academic journal is mainly the fact that electronic ads are based on actual contacts with a potential client (hits) whereas traditional advertising is based on an overall estimation of the distribution of a medium. In an electronic journal publication can be analyzed in the smallest distinguishable items such as the articles; placing ads on normal pages of articles might constitute a bias too difficult to estimate or calculate. On the other hand space on INPSEL's opening page for each issue is limited. This problem is solved by most commercial players on the Internet by offering time slices for ads where ads will appear for only a short time and exchanged for ads from another advertiser.

We will try for INSPEL a combination of print and electronic advertisements benefiting for a certain time the existence of parallel print and electronic publications, where the print version attracts traditional advertisers and the electronic one the innovators. Until now there has not been any advertising in INSPEL at all so that there will be a fair chance to generate new income. In this context we will profit also from the technical capabilities of Acrobat to distribute advertisement electronically even if it is disseminated throughout the whole issue. The argument for these advertisements will be "your ad will be seen in print and in the Internet - immediately and even after a long time". It is intended that those doing the PDF editing and the Web publicity for the electronic version will also be responsible for the acquisition of advertisements, financing their posts by this activity. Later on, when the print income reduces further, advertisements as a source of income will either finance the whole journal (and costs like typesetting) or the model fails. In this case a completely different solution will be needed.



Future Requirements

Odlyzko (1997) points out electronic journals not only have the opportunity to offer additional service features for their readers but even have the obligation to add scientific value to their publication. The value adding process - which normally is integrated in the publishing business where different players are responsible for distribution, marketing, indexing, access, and retrieval of a given document - is integrated in electronic publication in the hand of one e-publisher. Further consequences of going online have not yet been checked for INSPEL but I am sure that there will be a lot of new tasks.

One of the next steps may certainly be the formal establishment of metadata for each of the articles now present in the Internet version. With indexing, there will be of course a new need for more sophisticated retrieval of articles and searching within the text of articles. Indeed, the journal may evolve into a database or a new kind of information system. At that point, we will leave the Gutenberg Galaxy. In the interim, I invite you to observe the developments of the new INSPEL at <http://www.fh-potsdam.de/~IFLA/INSPEL/>

Note

1. This paper was originally presented in a slightly different form at the Open Session of the Round Table of Editors of Library Journals (RTELJ) at the 63rd International Federation of Library Associations and Institutions (IFLA) General Conference in Copenhagen. The Conference took place August 31 - September 5, 1997.

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