

VIRTUAL LIBRARIES AND THE NEW BUSINESS MODEL IN SCHOLARLY PUBLISHING

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ABSTRACT: New issues are emerging for mediators in changing from traditional to virtual library. It could offer the opportunity to stress some trends of new business model in scholarly publishing.

What we, yesterday, called New Economy or Net Economy was overvalued, as everyone knows now. Today, everybody speaks of economy, just economy (not “new” or “old”) even with regard to the Internet and electronic services. But this more realistic way of thinking does not hide the dramatic changes that have come, and still go on, in many areas. Scholarly publishing may be affected the most.

My goal here is not to present the results of particular research, but to share with you some reflections we made after several years of scanning this field in the Research Group on Information Services (GRESI).

First, in order to clarify the analysis, I have to point out three significant elements:

- In economics, there is an alternative form of obtaining goods or services: you can choose to produce them yourself (organisation) or to buy them (market). According to whether it is more expensive to organise a process of production or to negotiate the access to the required good or service, the stakeholders will choose one or the other solution. In the field of electronic scholarly communication, we have a typical example of this alternative, with the organisation of free archives by the scholars themselves on one hand, and the distribution of articles by the way of commercial portals proposed by the publishers in the other.
- For many years, the connection between publishers and libraries was the model that could preserve both the necessity of disseminating the reviewed scientific literature around the world (publishers) and the necessity of free access for patrons in a particular place (libraries). Economics of science and economics of publishing coexist in a strange but efficient wedding between profit and non-profit (even if there are domestic squabbles, specially on the cost of the subscriptions). I want to stress that it was a strong model, and still a reference one. But nobody can say that this model is an eternal one.
- At first sight, libraries look like small islands of relative calm and stability in a sea of change of the digital age. They are accustomed to cooperate sometimes even on a very large scale, they currently share their resources as it is the rule on the Internet. They do not need to sell anything, which is particularly difficult on the Net. They are

not concerned by the fluctuations of Nasdaq. They are founded mainly by the communities which they serve. Lastly, the disorder which characterizes the Internet, stresses the need for order, i.e. the librarians' skills. It is true that all of these strengths have allowed libraries to develop some of their traditional services (reference, ILL, etc.) on a very large scale. But, at the same time, digital services so deeply change a library that one can say it's not a library any more, just a new unnamed institution.

Let us compare a traditional library of scholarly journals with a virtual one.

The traditional library builds a world of limited knowledge for a limited number of people: the documents are classified into collections, which remain in the institution and could eventually be borrowed for a short time. Patrons are counted; time itself is regulated by the opening hours and the periods of loan. The economy of the traditional library is based on the service for an identified community of people. This community is limited and, in most cases, the external patrons are very few. This service is a service for a neighbourhood based on the handling of material objects (documents in paper). The justifications of a library are: mutualisation of the costs (an item for several patrons), opportunities of reading (discovery of documents by the effect-collection, "just in time..") and insurance (preserving the access "just in case"). Thus, the representatives of the communities they are serving mainly fund libraries.

Information retrieval systems opened a gate in the walls of libraries by offering access to outside resources. Indeed, the community of patrons remains limited and the sophistication of the tools clearly showed the need of information specialists.

In the virtual library, the walls are down and its business model is shaken. We can illustrate these new issues by the changes for collections and for patrons. The collections of a virtual library are made up mainly of:

1. Local collections, the documents that could be recorded on the server of the library. Publishing no longer makes an obvious difference. The virtual library does not loan anything to anybody, it gives access, often to everybody connected on the Net. A sign of this change is the new stress (at least in France) on intellectual property: libraries must have the copyright of documents they provide on the Net. Usually these documents are those of the public domain (heritage) or the non-published works (gray literature) of the members of the community (theses, reports, etc.).

This new role for the library produces new costs unknown in traditional librarianship. The librarian not only catalogs the document but formats it in a readable and accessible file, and even trains local authors in electronic publishing. Some works look like publishers' or printers' works in the old paper world.

And, in most cases, these changes are managed in a collaborative way with other libraries. Networks are built to share skills, experiences and digital collections. These networks could reduce costs tomorrow.

2. Licensed collections. Publishers offer libraries a license to access their full-text journals. The terms of the licenses are negotiated. Gradually new rules are emerging. Once again, the changes are significant. The librarian does not really hold collections any more, and, at least partly, he does not even build the collection in his own way. In a way, librarians and publishers have reversed their roles, and librarians with licensed collections are now some kind of agents.

Consequences are serious. The increase of transaction costs has an obvious effect on concentration of the two involved parties, publishers and libraries. Both are interested in reducing the number of their partners to decrease the time spent in negotiations and the costs of technical adaptation. This effect is transitory (just the time of building a new system), but the result will continue. The librarians build consortia to reinforce their capacity in negotiation and to build technical platforms. Publishers become bigger and bigger, sometimes increasing their portfolios in quasi-monopolistic ways. The already inelastic market can become still more rigid. Against the perverse effects on subscription prices, librarians have supported non-profit publishers.

Free collections. Many scientific articles are now available for free on the Internet. How to control a collection, which, by definition, is wild? How to separate valid documents from those that are dubious? How to be sure of the stability of the URL or even of the documents themselves? These issues, and many others, are still discussed and different solutions are proposed, according to the different nature of the collections. We can find three categories of free collections:

- Archives of scientific articles organized by researchers themselves or learned societies. These self-services have been developed very quickly. The deposit and access to the text are direct. The fast evolution in some very organized scientific communities could prefigure changes in traditional functions of scientific publication. This new way of publishing, controlled by the concerned scientific community, is bypassing mediators, i.e. librarians and publishers, since authors and readers, belonging to the same group, access the text directly.
- Self-publishing. Researchers can offer their own productions online and develop specialized web sites. This practice is very current. Nevertheless to publish, even in a rough way, takes time, presupposes a minimal know-how and demands sufficient detachment. After the current boom of exchanges in the "invisible colleges," the majority of authors will be tired of working on their own research, for which they are not trained and do not receive any remuneration, in money, career or reputation. The best web sites will become professional. It is a traditional dynamics in the history of the media.
- Free access publishing. Profit or non-profit publishers could, for various reasons, offer journals online for free. They may do this either for political

reasons (democratization of science), or for strategic reasons (loss leader). These policies could be short lived; in future years the publishers may charge. Generous at first sight, such a policy can also support the actors who have these means, i.e. powerful ones and thus reinforce their dominant position.

Thus the concept of collection could be upset in the digital world, and we have only suggested some aspects, forgetting for example the mission of conservation, up to now reserved for the libraries.

Let's take the problems now from the patrons' point of view.

In a virtual library, it does not cost, a priori, more to offer services to the community of original members or to the entire Internet; and conversely it is possible to offer its original patrons a much broader panel of resources without excessive cost. We can stress three kinds of change according to whether we analyze the related services from the mediators (publishers and librarians), from the patrons themselves or from their organized communities.

From the point of view of the mediators, two funding issues have arisen. These are:

1. If access to a document is free for everyone, how can one fund publishing?
2. If everyone has equal access, how can fees charged to a particular community be justified?

For libraries, the answer to the first question was to keep only for their affiliated members the use of documents for which they had negotiated access. For outside users, they could offer their local collections and eventually document delivery services, when the objective is to show that they are leaders in their specialized fields of knowledge. In these ways they can enrich their community, by adding value inside and offering existing value outside.

The first observations of the evolution of the practices of electronic reading in science could appear paradoxical. On one side, the surveys insist on the attachment of many scientists to paper; on the other side the statistics indicate a great burst of downloading as soon as a critical mass is online. We think there is a breaking point. Readers prefer paper when electronic resources are neither accessible enough, nor abundant enough. But they dramatically change their practices and opinions as soon as there is enough on screen to monopolize all information retrieval and reading time. If this assumption is founded, as predicted by statistics, the economy of publishing will have to be rebuilt on another basis tomorrow. No stakeholder today can negotiate reasonable prices for uses whose behaviors change so rapidly; that is probably the main reason why negotiations still remain what they were in the paper world. But to be present and seen on the Net is crucial; there is a race of investments in order to be the first that cannot be ignored.

In the scientific world, some consider that the literature would become a “public good” accessible to all, without mediation, allowing an optimal development of science and knowledge. Authors do not need (and don’t have any) royalties from publishing; they are paid by their peers’ recognition, which has direct consequences on their careers. In order not to stay a utopia, these considerations suppose a very structured and consensual (particularly about its mode of regulation) community. In this case, the cost of certification (reviewing) of documents is included in the common uses of the community, implicit for the researcher who could publish online only “legitimate” articles; if he doesn’t, he does face exclusion or, at least, being banished from the community. As soon as other considerations rise, like industrial applications, media or just a less regulated organization of the discipline, the mediation of an external party could help to legitimize the content of publications.

In addition, researchers sometimes forget they are publishing not only for their peers. Industrialists, researchers of other disciplines, students, and various politically enlightened citizens are readers. Even if only occasional readers, they are essential for inserting science into society, for its renewal, and for exchange between different parts of science. For these readers, mediators are important.

Thus we are facing dramatic changes. It is impossible today to draw the true future design of scientific publishing and to predict the future role of the mediators. Nevertheless, we can locate some structuring movements and incite the stakeholders to take care of it. In conclusion, we want to underline that, if one wants to succeed:

- The access to the reading must be free. All the barriers (technical, financial, etc.) to the text should be banished. In particular, the commercial transactions must be removed, either before (subscription, license), or after (invoice), but not at the time of reading.
- For the mediators, publishing and librarianship have been models in the paper world, but do not work in the same way in the digital world, even if they remain a reference for commercial transactions. So it’s very important to conduct experimentation and avoid getting locked into one mechanism. The financial negotiations will be rebuilt tomorrow on new bases.
- Lastly, the movement in progress is also the occasion to redefine the places of public interest and market in scientific publication. These polemical debates and contradictory initiatives are not exceptional in the history of media. Private or public sectors are alternatively accused of oppressing or freeing publication. In the field of science, the connection between publishers and libraries was the old compromise; scientists and mediators have to find a new balance for the new situation

The chaotic construction of the virtual libraries illustrates also major transformations in the processes of construction of science itself.

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