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The Information Industry : Quo Vadis

ABSTRACT For more than a decade libraries and scientists have been complaining about the ever-spiraling cost of scientific information. Because of the decreasing number of commercial publishers, more and more are being bought by only a handful, we are well on our way to a monopoly situation. Fortunately now the world is reacting and reacting forcefully so it may well be that the present model of the dissemination of scientific information is about to collapse.

This paper gives you an overview of the most recent developments but warns at the same time to be careful. We cannot break down the old system before we have something new in place that works.

"At first people refuse to believe that a strange new thing can be done, then they begin to hope it can be done, then they see it can be done - then it is done and all the world wonders why it was not done centuries before."

Frances Hodgson Burnett, 1849 - 1924, English born

US writer

In this presentation I will be giving you an overview of what is happening in the information industry with emphasis on a number of initiatives that took place in order to break the model of ever-increasing prices of STM journals.

Since January 1665 when the first scientific journal appeared we have seen an enormous explosion of scientific information and today it is safe to say we have a daily production of more than 100,000 scientific articles. For the past 10 years at least we have manoeuvred ourselves into a situation where we no longer can afford to purchase what we used to buy and many a library had to cancel many a subscription. We have called this the serials crisis.

The development of technology had lead to first the birth of electronic databases and later the creation of individual online journals (about 9,000 at

present) and all of us begin to wonder now if the present advancements will help to get us out of the serials crisis.

Authors of high quality publications have always wanted to publish in high quality journals. Their contributions further increased the reputation and the scientific impact factor of these journals. This in its turn increased the psychological pressure on other researchers for sending more publications to the same journal, etc... The universities and the subsidizing authorities enhance this vicious spiral formation by pressuring the researchers to publish more and by preference in prestigious journals with a high impact factor. During this process, the researchers and the universities are forgetting that by this mechanism they force themselves to pay for these scientific publications forever-increasing prices to companies that deserve no real merit whatsoever in these activities.

As Richard M. Dougherty wrote back in 1989, when he was professor at the School of Information and Library Studies in Michigan:

"The long-term solution lies not in greater library cooperation and resource sharing, but in putting into place a system that fundamentally overhauls the way higher education produces, distributes and uses the information products of university research."

Let me first bring you up to date with a number of happenings which in my view are rather negative than positive.

A. Publishers

More and more we see a concentration of the publishing activities in the STM world which now seems to be dominated by only a handful commercial players. The October 2000 announcement of Elsevier Reed to purchase all of the Harcourt Brace Jovanovitch journals which includes the imprints of Harcourt Journals, Academic Press, Churchill Livingstone, Mosby and Baillere and Tindall, has just been approved by the FTC and Office of Fair Trading in the UK. We now have a mammoth organization where at least 30 percent of the budget of a university library will go to and over 50 percent of the budget of the pharmaceutical industry. Secondly, Elsevier Reed has established a sales force worldwide of about 100 people to sell and promote their electronic access vehicle Science Direct directly to university libraries and to the end users of this community bypassing the services of the intermediaries. The same policy is followed by John Wiley and Sons. Further Elsevier predicts that within 2 years over 90 percent of their STM information will be purchased electronically and print will disappear. In effect Elsevier is offering discounts of up to 8 percent to those libraries who decide to cancel the print. I myself have never understood why libraries or a consortium of libraries will enter into negotiations directly with publishers which do have enough critical mass to sell their total packages to libraries in a digital form. And why do libraries accept to pay a price for electronic access which is based upon a paper copy model. The economies of electronic publishing are totally different from the paper world, they are less costly. Secondly, why purchase all information from one publisher whilst in the paper world individual titles were ordered. I am still of the opinion that libraries, users, purchasers must have a choice. In the pharmaceutical industry the requirement is that we would like to

purchase all what is available, but at the end of a 12-month period we would only like to pay for what we effectively have been using. This seems a very realistic requirement may work for research companies but in a university environment where we are dealing with yearly budgets it is an impossible model because it is based upon a variable cost structure. Also I believe that publishers will have severe difficulties in accepting this because it will bereave them of substantial revenues as more information is not being used than is being used.

As of the Frankfurt Bookfair and later during the Online Meeting in London in December of last year, rumors go that some other publishers have put their businesses on the market. If all rumors are true, we are to believe that:

- a. John Wiley is for sale
- b. Gordon and Breach is for sale
- c. Springer Verlag is for sale
- d. Karger is for sale
- e. SilverPlatter is for sale

In the meantime Gordon & Breach was bought by Taylor and Francis and a few months ago Kluwer bought SilverPlatter.

The other Dutch giant in the publishing industry, Kluwer Academic, may now have insufficient critical mass to fight the battle for content with Elsevier. I am sure they will strike back soon and purchase one or two major publishers in addition, Harper and Rowe or Springer maybe?

The concentration of the STM information to be available only from a few players and to be only directly available from those publishers will have dramatic impact on the total price of what is left of the library holdings to be handled by agencies. If 30 percent of the high priced individual journals with corresponding margins of discounts will disappear agencies such as EBSCO and others will have to dramatically increase handling charges to continue offering the services and developing new services to our customers.

B. Library developments

The building of consortia between libraries in my view is not a good thing as it in no way helps to break the ever-increasing cost spiral. It works the opposite and in the favor of publishers who have safeguarded their revenue stream. It makes much more sense to fight those developments rather than supporting them by signing huge agreements.

1. D-lib Magazine, the March 2001 issue, features an interesting article by Kenneth Frazier, Directory of University Libraries in Wisconsin, titled *The Librarians' Dilemma*. He says: "Academic Library Directors should not sign the big deal or any comprehensive licensing agreements with commercial publishers." The University of Wisconsin was able to negotiate with Elsevier a special deal, not access to the 1,197 journals in ScienceDirect, but only the 120 journals in which they were interested
2. Han Waetjen, university librarian of the University of Oldenburg, in one of the latest issues of the quarterly LIBER Review suggested

dramatic measures in mobilizing the universities worldwide to cancel all Elsevier titles for a period of 6 months which no doubt will lead to a gigantic drop in the shareholder value of an Elsevier share. The University of Oldenburg by the way subscribes to 79 Elsevier journals only.

3. Last year in a German language publication called *Labor Magazine* appeared an article called "*Das Große Würgen*" about similar suggestions but added was that the price would drop so much that then all the university libraries together could buy Elsevier shares and consequently own a large part of this company.

And now let us get back from the world of dreams into reality and talk somewhat about a number of initiatives that all have in common one goal:

LET US BREAK THE MODEL.

1. **SPARC**
A few years ago ARL founded the Scholarly Publishing and Academic Resources Coalition, or SPARC, charged with encouraging the creation of new journals (print and online) offering lower subscription rates than traditional journals. Recently Sparc Europe was founded, initiated by LIBER and supported by CURL, SCONUL and UKB.
2. **ELSSS (Electronic Society for Social Scientists) Initiative** by Professor La Manna, St. Andrews
Also here the objective is to publish peer reviewed journals at half of the cost of those charged by STM publishers. Over 1,000 scientists worldwide support those initiatives.
3. **Ginsparg, UPS, Open Archives Initiative (OAI)**
The electronic e-print archive "*archive*" at the Los Alamos National Laboratory (LANL) that originated in 1991 from the high-energy physics community is probably the best example of these initiatives; today it covers a very broad range of subjects in physics, mathematics and computer sciences. The submission of contributions is completely automated, and not subjected to a system of peer review. In some fields of physics these archives have turned into the main channel for the exchange of scientific information, with over 50 000 users daily and 15 mirror sites around the world. For assessing the value of the contributions, researchers rely on the established reputation of other groups and on their own careful analysis of the papers. Since then hundreds of subject specific preprint services have been set up, notably Steven Hamad's CogPrints archive (cognitive sciences) or NCSTRL covering computer science research reports, to name a few.
4. **E-biomed, PubMed Central, BioMed Central**
Harold Varmus, Nobel Prize winner and director of the U.S. National Institute of Health (NIH), proposed the E-biomed initiative in May 1999¹. He saw it as a natural extension of PubMed, which

¹ See <http://www.nih.gov/welcome/director/pubmedcentral/ebiomedarch.htm>.

was offering free access to the bibliographic database in the biomedical sciences (including the Medline).

5. *EMBO and E-Biosci*
EMBO, European Molecular Biology Organization, is a kind of international academy with approximately 900 individual members. One of their activities is the publication of the *EMBO Journal*. This initiative is trying to arrange the construction of a single large searchable database for the life sciences tentatively called E-Biosci. One of the principals agreed upon was that payment should shift from the reader to the author.
6. Public Library of Science
Should the record of scientific research be privately owned and controlled? We believe that the permanent, archival record of scientific research and ideas should neither be owned nor controlled by publishers, but should belong to the public, and should be made freely available. The request is that all information after six months of publication will be made freely available. And publishers that refuse to cooperate will be boycotted. 26,400 scientists as of last month from more than 153 countries have signed an open letter to support this demand.
7. Free access to medical journals to be given to poor countries
Elsevier and Wolters Kluwer, Blackwells, Springer Verlag and John Wiley and Sons, under a program piloted by the World Health Organization will provide free electronic access to about 1,000 medical journals to medical schools, research laboratories, and government health departments in poor countries, countries where the pro capita national product is less than USD 1,000 per year, get the journals free. This at least is a very promising initiative by those five major STM publishers, although they will not give much turnover away as they had hardly any sales in those countries.

Clearly the new style publishing initiatives will not inevitably succeed. For a start, there is a credibility hurdle. An article in a respective print journal still provides greater value than an electronic only journal and funding may also be a problem. The Open Archives initiative is probably the most realistic one: it does not count on the questionable goodwill of the publishers to provide material and it gives furthermore the library a prominent role as co-ordinator of the information. In March of 2001 the OAI has held a conference in Geneva and the three most urgent recommendations were:

1. Conduct work in the area of using the OAI protocol for certification-related metadata. Create certification schemes building on existing efforts, where possible.
2. Some credible library organizations should get in touch with scholarly publishers to promote the concept of exposing metadata of the materials (articles, books...) they publish via the OAI protocol.
3. Increase the amount of institutional and/or departmental OAI-compatible e-print servers and take actions to promote submission of scholarly work to those servers.

If the libraries neglect to reflect and to take appropriate measures regarding these new mechanisms for access to the scientific information, we might be

faced with the prospect described by Andrew Odlyzko². According to his analysis, libraries are spending in general twice the cost of their journal subscriptions to their accompanying services, such as shelving, preserving and lending out. He predicts that publishers will happily forgo part of their present income, if they can succeed in taking over in an economically favorable way the intermediating role of the libraries. This is already taking shape through consortium and even national licensing for access to large packages of electronic journals. Do we really want that this access function to the scientific publications is taken away from the library and given into commercial hands, with all possible future dangers of exploitation due to a new monopoly situation? We have arrived at a breakpoint in the history of the scholarly communication. The main concern should be that maybe the transition to fully open archives will happen too quickly and that publishers' revenue streams will dry up before we have been able to stabilize a new business model. Transformations may proceed so quickly that traditional peer-review disappears with nothing to replace it. We are about to enter a period of what the Austrian-American economist Joseph Schumpeter called "creative destruction".

"Only some of us will still be in business at the end. And those of us who still exist will not be doing exactly what we are doing now."

Thank you for your attention.

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