nature webdebates

Content and context in one service, tailored to meet the needs of scientists

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The E-BioMed proposal, first floated two years ago by Pat Brown from Stanford University, David Lipman from the National Center for Biotechnology Information, and Harold Varmus, then director of the US National Institutes of Health, has been succeeded by a new initiative with a revised agenda, the Public Library of Science (PLS). Scientists are being asked to sign a petition demanding that publishers give free access to material in their research archives six months after the material has been published, and place the archive material on a central Web server. The stated aim is to create unrestricted search access to the primary literature. In signing the petition, one is also backing a pledge to boycott any journal that does not comply with the demands.

Scientific journals fulfil two basic communication functions, providing 'news value' and 'archive value'. For some journals, the news value prevails and for others the archival value is more important, but, in general, both functions add to the value a publication has for the scientific community. When the archival function is taken away this effectively reduces a publisher's role. Publishers become mere organisers of the peer review process and producers and distributors of primary articles, and are deprived of an essential element of a journal's value. This will endanger the survival of the journal in question, and hamper the development of new services based on sound business models.

We distinguish between three types of archives. They are:

*Archives that are a national or international heritage and contain everything that has been published, organised primarily in the form of a deposit to a national institute. Here, the sole purpose is to safely store the information for future generations. There are no commercial goals. Elsevier Science is involved in several such initiatives.

*Electronic conversion of back-files. We are committed to making all our journals electronically available, right back to Volume 1, Issue 1 of each journal. Material in the first subject area, Organic Chemistry, will be ready by the end of 2001.

*The electronic archive that is accumulating as publishers make their journals available electronically.

PLS targets the third type of archive. We believe that the integration of current information and archives is the way to proceed. Boundary-free access from "past to current" and "current to past" will challenge publishers to explore new ways of developing new services for scientific communities, and serve them better. It is our role, and a continuous challenge, to fully understand the needs of scientists in searching for, selecting, accessing and presenting information, to understand how scientists process information in their work and to see which tools could be developed to assist them. We believe that the future role for publishers lies in developing these new products and services, of which content forms an integral part.

The aim is to provide content and context in one service, tailored to meet the needs of scientists and scientific communities. This does not exclude the option of making primary information freely available, in a very simple form, after a certain delay following publication. This should only be done, however, if the value perception of the original publication remains intact. This would be particularly important in the case of journals whose value demonstrably lies in their provision of news.

An interesting parallel can be drawn with the way many publishers have developed a fruitful symbiosis in some disciplines with pre-print archives. In a way, pre-print archives are analogous to the news function of a journal. Simple, open archives could compare to the archival value of a journal. However, the lesson learned from pre-print servers is that "no one size fits all"; what works in one area may not work in another. The "authoritative" value of the primary publication has again proved to be essential.

There is another question we would like to see discussed and this is "How will scientists' needs be better met thanks to the PLS initiative?" Are scientists really so hindered by current publishing practice that the underlying paradigms and business models should be changed drastically.

The success of the roll out of services like *ScienceDirect* — our full-text database, containing 1,200 journals — suggests the opposite. Librarians are now in a position to extend the selection of journals to meet the needs of the scientific communities they serve in a very easy and affordable way. Publishers are currently improving the value/price ratio, which, under the 'print paradigm', had understandably become the focus of discussions.

We aim to give scientists desktop access to all the information they need, for a reasonable price, and to ensure that the value of the content and the context in which it is presented are reflected in the information provision. The information is made available to researchers under licences accorded to their institutes, and they have all the access they wish.

In addition, most publishers' full-text databases are linked through CrossRef, an organisation of science technology and medicine publishers that provides seamless links to articles through citations. Publishers have also been keen to organise further links to their articles, for instance from PubMed or EmBase. Thanks to these initiatives, a network of fully integrated, full-text article databases is developing.

Have the possible consequences of the PLS initiative for the majority of publishers, both commercial and society alike, been considered? More importantly, has sufficient thought been given to what will happen to their publications if an essential element in these services is removed? If journals failed to survive — and it is the niche journals that would disappear first — the system of peer review might fall apart and it would difficult, even perhaps impossible, to organise it in another form. The PLS initiative cannot be treated as "an experiment without risk". If half of the existing journals went under, it is not a process that could be reversed. We therefore think the PLS initiative is as unconsidered as the E-BioMed proposal of two years ago. We believe that, as it is currently presented, it is a high-risk venture, not even so much for the publishers, who may have other means by which to survive, but mainly for the publications and the scientific community. The PLS-initiative is an example of how to throw the baby out with the bathwater.

After obtaining a degree in Business Administration, Derk Haank was a lecturer and researcher at the Free University of Amsterdam's economics faculty for eight years. He joined Elsevier Science in 1986. He later became managing director of Elsevier Science in the United Kingdom, then spent four years in business publishing within Reed Elsevier (1991-1998). In July 1998, he returned to Elsevier Science as chief executive. In November 1999, he was appointed as a member of the board of Reed Elsevier and chairman of Elsevier Science.