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Electronic publishing is here to stay

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When a year or so ago I discussed with a publisher my plans to start a scientific web journal, he mumbled: 'Leave this to the professionals - you are merely an amateur'. This sounded discouraging, and if one reads 'amateur' as 'someone who lacks professional skill or ease in performance' ([Atomica](#) search) it certainly was. However, the Latin *amator* literally meant 'lover, admirer, devoted friend, enthusiastic pursuer of an objective', and it is in this light that I see our own publishing initiative. From the very start, the aim of *Veterinary Sciences Tomorrow* was to build an attractive communication platform for the global animal health research community. We wanted to publish state-of-the-art reviews for scientists, academic teachers, graduate students and policy makers, and for the occasional interested practitioner. We would not exclude interpretation and opinion on issues of importance for animal health, and we would encourage interdisciplinary exchange. All these objectives were expressed in the journal's mission statement. Finally, being amateurs, we would publish electronically, with neither a paper version nor printed copies available.

Are we naive? In a way, we are - amateurs usually are - but we have looked carefully at the publishing environment and assessed its future. Others have too, particularly the publishers, and meetings addressing electronic publishing abound (a recent one has information published [online](#). Details of the speakers and summaries of their presentations are accessible through the [program](#)). So, what exactly are the issues involved?

If we look at the process of communication between scientists and their readership, we see that important changes have occurred in the past decade:

- As discoverers, scientists can no longer consider communication as something they can afford to choose or reject. Publication has become *conditio sine qua non*. It is an integral part of the scientific endeavour
- As readers, scientists are dependent upon information that is authoritative (i.e. it has been verified), carries scientific weight (it contains elements of novelty) and is quickly accessible (it is on the web). Waiting for a university library to photocopy and post a paper is no longer acceptable
- Quality control and quality assessment systems are in place and are continuously updated and fine-tuned. Researchers grudgingly accept that Journal Impact Factors (JIF) are used to gauge their scientific quality, and quantity is measured by counting the number of papers they have published:

veterinary faculties routinely publish lists of papers published by staff members. Although the JIF issue is a contentious one, even the most antagonistic reader comes to realize that there is less rubbish to be read in the higher scoring JIF papers (statistically, that is) and would, therefore, have more confidence in their content

- Universities, particularly their libraries, are entering the publication scene

Unmistakably, the demarcation line separating the functions of university libraries from those of publishing houses is becoming less distinct. In the past, both establishments did what they were good at: either archiving or publishing, but rarely both. There were notable exceptions though, such as the Oxford and Cambridge University Presses, and even a few veterinary faculties, like the ones at Cornell University, USA and at the University of Pretoria (Onderstepoort), South Africa, which publish primary scientific data. In today's electronic era, web publishing is relatively inexpensive and technically feasible, so that more scientific libraries and even individuals venture down this alluring path - only to learn the hard way that there is more to it than meets the eye.

At the other end of the spectrum, publishers have now realized that they must take care of literature archives and make them accessible - if only for reasons of customer satisfaction. In the past, their commercial outlook had made this activity seem unnecessary for there were libraries that took care of the binding, cataloguing, and loaning of the paper journals. But all this will change, not least because of the need to improve their public perception by authors and readers.

The situation of customer dissatisfaction and poor public perception is comparable to the low esteem many scientists have for the pharmaceutical and vaccine industries - the organisations that transform scientific data into tangible products. Scientists argue with the publishing houses that tax payers' money funds research, the results of which are reviewed, edited and printed (sometimes at considerable cost per page), and then at huge, ever-rising, subscription prices the universities must purchase their own data back in the form of journals. 'Why', they ask themselves, 'do we not run our own show and save money in the process?'

This question marks the point where we stand today. Both parties, scientists and publishers, are presently in a reflective phase and new standards are emerging, though more so from within the publishing industry than within academia. Traditionally, the latter has been complacent, with some notable exceptions, while the former has always been quick to recognise, and respond to, threats to their commercial position. The scientific publishing industry responded with a series of groundbreaking innovations, including [Elsevier Science Direct](#) and [IDEAL](#). The sheer volume of work that has gone into creating these sites is mind boggling, with links to 1,200 online journal titles, 1,200,000 online articles, 30,000,000 abstracts, 6,800,000 links from citations, 8 science portals and 50 million indexed web pages. They offer a phenomenal service to the scientific community, one that I would not expect from any other constituency and certainly not from the

universities, which in the past have preferred to compete with each other instead of formulating and striving for a common goal. The anticipated shootout between the publishing houses and the academic libraries over electronic publishing will not take place; the Goliaths will simply ignore these little Davids.

I quote the following:

'This is not a time for amateurs to get involved, with all due respect. It takes people who are committed, who are well funded and are in it for the long term. I have seen it in my own company: small publishing groups getting excited about Web servers and after three months they got bored because it is rather tedious. In electronic publishing, because you have to adhere to very strict protocols, it is not just exciting; it's a lot of hard work. It is tedious and at the same time intellectually challenging. It is nice but it is not something on the side. It is not something that I find is done effectively by the scientists themselves. I understand their feelings that because of the high journal prices they wanted to have a go at the commercial publishers. If that is your sole motivation, I think that you are in for a shock because it is a lot of hard work and is that really what you want to do? If you really want to do that, then come and work for us. But if you want to be a scientist stay away from it because you underestimate the amount of work, the funds and also the perseverance that is needed to make it work in the long term.

But I see this as a cry for attention, by people irritated by the fact that the old system was not working as well as it should. Now it is up to us - the commercial publishers and learned societies - to prove that we can develop a service that is well run and delivers what it should be delivering. Then there is no need for these initiatives from the scientific community. It is ironic that the whole world is talking about out-sourcing and the academic community would in-source a tedious job like publishing. It is much easier and more appropriate to leave it to people who do it full time and who are not clever enough for academic research and end up in publishing.'

These paragraphs were taken verbatim from a paper presented at the Second ICSU-UNESCO International Conference on Electronic Publishing in Science, held earlier this year (February 20-23) in association with CODATA, IFLA and ICSTI at the UNESCO House in Paris. [The Recommendations](#) make interesting reading.

There is a hint of arrogance in the above quote, and some whistling in the dark. Rather than showing (financial) muscle, and hypothesizing about the scientists' motivations and idiosyncrasies, some sympathy and attempt to understand might be a wise investment by the publishers - and vice versa, incidentally. However, if an open dialogue were to occur even more irritations would be divulged. These would include the long delays between submission and publication, the publishers' bureaucracy, the expectation that a referee considers it an honour to review a manuscript (in time and for free), and the expectation that an editor considers it an honour to run a journal (in his free time, for an inadequate honorarium), the arrogance of editorial power, the authors' disregard for instructions, their manuscripts written in poor language and style (especially by non-English speaking authors), the delays in re-submitting modified manuscripts, and the trickery employed to camouflage insufficient improvement to manuscripts during their 'modify' phase.

Nevertheless, development of an open dialogue would be the first step towards a better understanding between scientists and the world of publishing and, in an attempt to

achieve this, many initiatives are already under way. The recent [Conference on Change and Continuity in Scientific Communication](#) in Amsterdam is a good example. Its aim, like our own, is to encourage a dialogue between two factions with the same mission, i.e. to distribute high-quality scientific information. *Veterinary Sciences Tomorrow* and its Editorial Board will consider this its foremost task. There is no doubt that electronic publishing is here to stay, but so are paper publications. After all, MP3 music has not superseded that from the CD, many people still listen to audiotapes, and there is a renaissance of the vinyl LP going on.

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