

Free market science

Information exchange in biology has already been enriched by online-only journals, databases, blogs and conference webcasting, but now *Nature Precedings*, an open access document sharing tool, aims to bring the community in line with the physical sciences, which have long used preprint servers.

When in London, do you prefer (window) shopping at Kensington's numerous boutiques or rummaging for a hidden gem at Petticoat Lane market? The dissemination of scientific information has long been linked to a value system based on a well established hierarchy of peer reviewed journals (the boutiques): reading a paper in a given journal attaches an almost universally accepted value to it, which nonetheless remains exceedingly hard to quantify beyond the rough-and-ready measure of the journal impact factor. In other words, a given journal raises a certain expectation about the importance and quality of the findings presented. This value system is favoured by science administrators and faculties eager for a quantifiable and up-to-date measure of performance. This reinforces the journal value system, and has the questionable side effect that referees and editors directly influence their colleagues' careers. On the other hand, this stratification, or filtering, of scientific information by quality and general interest greatly facilitates navigating the rapidly growing accumulation of information. In fact, broadly focussed top journals are probably the last bastion to sustain a general readership and the serendipitous discoveries that may result from reading around ones subject of specialization.

Thus, the classical peer reviewed journal is not likely to be replaced anytime soon. However, that does not mean that a parallel internet based universe of information sharing (the market) cannot flourish. Over the past few years, *Nature Publishing Group* has set up a number of open access platforms for non-journal based information exchange. Databases such as the *Molecule Pages* (www.signaling-gateway.org/molecule/) and gateways (for example, www.signaling-gateway.org and www.cellmigration.org) aid human and bioinformatic navigation of published information. Blogs — be it subject centred ones such as *Free Association*, *Action Potential* and *The Niche*, our methods blog *Methagora* or newsblogs (www.nature.com/blogs/index.html) — aim to foster informal discussion, although involved online debates remain all too rare. Finally, our reference manager, *Connotea*, was described in our September 2005 editorial (www.nature.com/ncb/journal/v7/n9/pdf/ncb0905-845b.pdf).

PubMed, the pillar of literature searching, now has a number of other powerful engines coming up in its rearview mirror, notably Google Scholar and Scopus (see January 2005 editorial www.nature.com/ncb/journal/v7/n1/pdf/ncb0105-1b.pdf). PLoS recently launched an innovative journal called PLoS one ([www.PLoS one.org](http://www.PLoS.one.org)), which retains peer review, but takes the criterion of 'conceptual advance' out of the equation — postings are formatted as traditional papers and subject to peer review. Of 1,400 submissions as of last week, 600 were accepted and Chris Surridge, managing editor of PLoS one, expects the acceptance rate to stabilize between 75–80%. Without narrowing criteria such as subject matter or novelty, will this journal rapidly turn into the proverbial information haystack full of lost needles? The online journal already uses subject tags for navigation and Surridge

hopes that a rating system based on the categories style, insight and reliability, to be launched soon, will filter information adequately. Papers are also open to comment, but at this time there are only a few more comments than accepted papers, and while these cluster around a subset of papers, it remains to be seen whether busy cell biologists will be drawn into the online debate.

As this journal goes to press, the next step in web-based scientific exchange has set a number of science blogs abuzz: *Nature Publishing Group* is about to launch *Nature Precedings* (<http://precedings.nature.com>), a platform that aims to facilitate sharing and discussing prepublication data. Notably, the site will host a diverse set of formats, including slide presentations, preprints, posters and, in the future, stand-alone data. The postings are citable (DOIs) and attributable to an author, and although they will be screened by in-house curators for scientific legitimacy (not novelty or quality), they will not be peer reviewed. As a result, content will be posted in less than a day. It is noteworthy that, similarly to PLoS one, the content carries a 'Creative Commons Attribution' licence, which requires only proper citation. The *Nature* journals, like many others, do not consider a posting on the site as a formal publication, which would prevent inclusion of posted information in a future paper, in contrast with a contribution to PLoS one, which constitutes a formal paper. A strong focus of *Nature Precedings* is on browsing, searching and alert functionality, with Web 2.0 features such as authored comments, voting, subject tagging and RSS feeds. In contrast with PLoS one, no submission charge will be levied and the long-term open availability of the content is guaranteed.

In essence, biologists will get a taste of what has been an integral part of the physical sciences community for decades in the form of preprint servers such as arXiv with its over 100,000 articles. The jury is out on how this service will be used — for now the beta version contains mostly bioinformatic entries, but also a cautiously encouraging seven entries in molecular cell biology. Some will argue it will provide poster presenters with global exposure and serve to 'time stamp' data and ideas, whereas others will feel that researchers in highly competitive areas will not gamble on such a wide exposure in the race to publication. After all, many big conferences already suffer from a dearth of unpublished data. However, there is good cause to be optimistic, as even traditionally secretive research areas, such as pharma-research, are occasionally opening up with laudable open-access projects such as Synaptic Leap (www.thesynapticleap.org/) — a site that facilitates sharing data on neglected tropical diseases. We are keen to hear your views, perhaps via one of our blogs?

We hope that these parallel universes of information distribution will flourish side-by-side to aid navigation of the formidable knowledgebase accumulating in the biosciences. Why not go and enjoy buying your handpicked sweets at the delicatessen and scouring the bazaar in equal measure.

Further reading on <http://www.connotea.org/user/bpulverer/tag/Nature%20Precedings>