

## **1. Publish or perish**

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### **China needs to elaborate on plans to modernize its flagging academic journals.**

Scientific publishing in China is in a quandary. Many articles in the country's 5,000-plus science and technology journals go unread and uncited, calling into question the value of the research. It also raises doubts over the effectiveness of China's scientific publishing — which, after all, is to disseminate details of research for others around the world to build on. One Chinese scientist has referred to the majority of China's publications as “pollution”.

Yet when it comes to publishing in international journals in English, Chinese scientists are second by volume only to those in the United States. Now, librarians and government officials in China are beginning to question why their own journals publish so few of these quality papers. The country's General Administration of Press and Publication (GAPP), which regulates all publishing, is to make reforms to strengthen its home-grown industry. This makes sense. And publishers in China could no doubt beat their Western counterparts at their own game. But GAPP has so far given few details of the reforms, causing confusion among the people most closely involved: the publishers. How should it be done?

GAPP should be aggressive — as it has promised (see page 261) — in evaluating its journals, improving the strong and killing off the weak. The resources and publishing rights currently allotted to eliminated journals could be transferred

to the growing number of scientists and publishers who are familiar with the international publishing landscape and are finding niche areas for new products. Many of these journals will be in English, and additional resources will be needed to help ensure that articles read well and are peer-reviewed fairly.

Clearly, there is a strong demand for more information on the best science in China. This is especially true in fields in which the country excels, such as optics and materials, but also in areas such as public health, where data from China have been overlooked (see *Nature* **430**, 955; 2004). If done well, these new journals could bridge a gap between the stronger Chinese literature and foreign scientists. A publisher of optics and photonics journals at the Changchun Institute of Optics, Fine Mechanics and Physics, for example, already plans an English-language publication to replace its weakest optics journal. It is a response to increasing demand from those researchers who have read abstracts in English and want a full translation. The journal will publish reviews that put Chinese experiments into the wider context of global trends.

The best opportunity to revive Chinese publishing, whether in Chinese or English, probably lies in an open-access platform — increasingly popular in Western journals. Many Chinese journals already charge authors a publication fee, so should be able to make a smooth transition to the open-access model, in which they are supported by fees rather than by subscription revenues. Making content freely available would help to popularize journals, and would encourage them to develop an online presence. Too many operate without one, enjoying a captive audience at their home institutions and lacking any competitive spur to bring

themselves up to speed on Internet publishing. The government could provide the interest, investment and expertise to bring these publishers into the twenty-first century.

It would, however, be a mistake for government agencies to give themselves too strong a role in this transition. GAPP has mentioned the creation of five to ten strong publishing houses that would concentrate on science and technology. This could work well, provided that they are able to move freely and openly, and can compete both with each other and with foreign publishers.

Most importantly, GAPP needs to consult quickly with its publishers if reform measures are to be put in place by next January, as intended. The lack of details mean that resistance to the reforms from publishers seems unavoidable. GAPP needs to make its expectations and evaluation methods transparent and bring in its reforms consistently. So far, that does not seem to be happening.

## **2. Strong medicine for China's journals**

**Weak publications will be 'terminated'.**

David Cyranoski

Few Chinese scientists would be surprised to hear that many of the country's scientific journals are filled with incremental work, read by virtually no one and riddled with plagiarism. But the Chinese government's solution to this

problem came as a surprise last week.

Li Dongdong, a vice-minister of state and deputy director of the General Administration of Press and Publications (GAPP) — the powerful government body that regulates all publications in China — acknowledged that the country's scientific publishing had a "severe" problem, with "a big gap between quality and quantity", and needed reform.

Opening a meeting of scientific publishers in Shanghai on 7 September, Li announced that by January 2011, new regulations will be used to "terminate" weak journals.

Precisely how this reform will work is the subject of hot debate. If an evaluation process finds a journal to be weak, it may be forced to close altogether, or relaunch with a different editorial board, a different title or even a different subject focus.

Those journals judged to be strong will receive support such as tax breaks. Scientific publishing will be concentrated in "five-to-ten large publishing groups" that will compete with each other, says Li. "We will turn China from a large science and technology publisher to a powerful science and technology publisher." GAPP did not respond to *Nature*'s requests for more information.

News of the regulation startled many of the publishers at last week's meeting, the 6th China Science Journal Development Forum. Some believe that bureaucrats should not be interfering with journals, and others say that powerful scientists will resist the move. But all agreed that China's scientific publishing is in bad shape.

Approximately one-third of the roughly 5,000 predominantly Chinese-language journals are 'campus journals', existing only so that graduate students and professors can accumulate the publications necessary for career advancement, according to one senior publisher. And in a Correspondence to *Nature* last week, Yuehong Zhang of the *Journal of Zhejiang University–Science* reported that a staggering 31% of the papers submitted to that campus journal contained plagiarized material ([\*Nature\* 467,153; 2010](#)).

Most Chinese journals make their money through funding from their host institutions, and by charging authors per-page publishing fees. "Most are never cited. Who knows if they're even really published. They're ghosts," says one publisher, who declined to be named. Wu Haiyun, a cardiologist at the Chinese PLA General Hospital in Beijing, says that only 5–10% of these journals are worth

saving, and the rest are "information pollution".

Most of China's top researchers already forgo Chinese publications for international ones, where they earn the recognition that can promote their career. And they are increasingly successful: in November 2009, scientists from China became the second-most prolific publishers of scientific articles in international scientific journals.

But some Chinese librarians are beginning to balk at the prices charged by these foreign journals. On 1 September, an open letter signed by 35 librarians criticized foreign science, technology and medicine publishers for "using their monopolistic position" to raise subscription prices annually by more than 14% for the next 3 years. Meanwhile, some of the better Chinese journals are being published in collaboration with foreign companies such as Wiley–Blackwell and Springer, respectively headquartered in Hoboken, New Jersey, and Berlin. *Cell Research*, for example, based at the Shanghai Institutes for Biological Sciences and co-published by Nature Publishing Group, reached an impact factor of 8.2 in 2009 — the highest in the Asia-Pacific region, including Australia.

Impact factors could provide an important cornerstone of

the government's evaluation system. For example, the Chinese Journal Citation Report, published by the Institute of Scientific and Technical Information of China since 2004 and covering some 1,800 of China's top journals, provides impact factors that measure their significance on the basis of the number of times that articles are cited by peers.

Many Chinese journals are switching to publishing in English to increase their impact factors, and more than 200 English-language science and technology journals are now based in China. *ACTA Genetica Sinica* became the *Journal of Genetics and Genomics* in 2007; *Neuroscience Bulletin*, founded in 1998, switched to English in 2006; and in January 2009, *Acta Zoologica Sinica*, published since 1935 and the second-oldest journal in China, became *Current Zoology*. In its first year, the proportion of papers that it published from non-Chinese scientists shot up from 16% to 42%. Having earned a spot on the list of journals counted by Thomson Reuters Web of Knowledge, the journal is awaiting its first impact factor. Martin Stevens, a zoologist at the University of Cambridge, UK, says that *Current Zoology* is now finding a niche. "Before, there weren't any journals that had this relatively broad audience. Many looked at specific areas of biology," says Stevens, who

guest edited a special issue of the journal about how the sensory system relates to evolution.

A minority of Chinese scientists argue that there is no need for Chinese-language primary research journals at all. All original Chinese research should be published in English-language journals to get the widest audience possible, says Wu, who adds that Chinese-language journals should stick to publishing continuing education and review articles. "Is it necessary for China to have its own journals?" he asks.

The government's answer is an emphatic 'yes'. For Li, strong scientific publishing is a necessary "driving force in innovation and technological strength". Once the new reforms are under way, she says, "journals will be a strong part of our soft power".