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EDITORIAL

Open Access: Tearing Down Barriers

Academic scientists are judged by the papers they publish. The pressure to publish in the peer-reviewed literature of science has grown tremendously over the last thirty years or so; a period that has coincided with a rapid increase in global investments on scientific research. Individuals, institutions and even countries attempt to maximise published output, with the result that there has been an almost unmanageable increase in the number of scientific journals that are published today. The technologies of the information age have contributed to this explosion of scientific literature as many new journals appear only in electronic form, while many old journals move towards dispensing with the traditional, printed form. Journals have always needed money for production. A long time ago, when scientific societies and academies were the sole publishers, many ventures functioned like 'not-for-profit' organisations, performing a community service. Editors and reviewers were unpaid volunteers, growing in number as science expanded. Science publishing as a commercial enterprise began to take root in the 1960s and grew very rapidly in the following decades. Traditionally, libraries paid for journals and institutions largely bore the costs entailed. The community of academic readers was generally unaware of the expenditure incurred. The growth of large publishing monopolies, the proliferation of journals and their rising cost have led to a continuous escalation in library budgets at major institutions across the world. A Harvard faculty notice is succinctly titled: 'Major periodical subscriptions cannot be sustained.' The April 2012 circular notes that 'many large journal publishers have made the scholarly communication environment fiscally unsustainable and academically restrictive'. Curiously, while the best of universities in the West have been alarmed at the runaway rise in library costs, Indian institutions have displayed little interest in asking whether their libraries get fair value for the money spent. The sudden spurt in the number of new science and engineering institutions in India, IITs and IISERs amongst them, has provided the large publishing houses with an expanded market in India. The pricing policies for scientific journals can be even more capricious than domestic airline fares. The transition from the printed journal to the electronically accessible product through the medium of the internet has facilitated 'bundling' on a scale that could scarcely be imagined a decade ago. Pub-

lishers can now offer access to over a thousand journals with a single omnibus subscription. There are very, very few institutions, if any, in India where such 'bundling' strategies are advantageous. The sheer number of journals in the 'bundle' is used by publishers to sell the notion of a relatively low cost per title. Librarians in our institutions are still coming to terms with this changing scenario. The new institutions, often consisting of a handful of faculty and students, are saddled with a base subscription, when they enter consortia of libraries, ensuring that future escalations are based on a high starting level. While university libraries abroad have reacted in an organized manner to counter the alarming costs of providing access to information, there is little evidence of concerted action in India.

Should access to the results of scientific research be restricted by issues of cost and copyright? Ideally, access to scientific papers should be free. After all much of academic research is supported by public funds and it appears reasonable that the results of research should be freely available. This argument is indeed the *raison d'être* of the 'Open Access' movement, which has grown in strength and diversity over the last few years. Open access (OA) advocates have been tireless and articulate, championing a cause that does not always appear to resonate with practising scientists. Most researchers are driven by the desire to publish their work in journals which have the highest possible impact and are rarely concerned about the accessibility of their articles to readers, who are unable to pay for the journals. Scholars who have been interested in issues of access to the scientific literature have been quick to point out that the publishing industry, which imposes restrictive copyright practices and promotes monopoly pricing, relies almost entirely on authors, referees and editors who contribute their time and effort voluntarily. The practice by which authors, supported by public funds, transfer copyright to a commercial publisher appears heavily weighted in favour of publishers. In recent times, the continuing financial success of academic publishers, in times of recession, has attracted attention. *The Economist* noted sometime ago: 'Academic journals generally get their articles for nothing and may pay little to editors and peer reviewers. They sell to the very universities that provide the cheap labour.... For more than a decade the dominant model has

been the “big deal”. Publishers sell access to large bundles of electronic journals for a price based on what colleges used to pay for paper ones. Prices of big deals rise at about double the rate of inflation’ (*The Economist*, 26 May 2011). The excessive profitability of the large publishing businesses, even in difficult times, must inevitably attract adverse attention.

The ‘Open Access’ movement now draws its adherents from different constituencies. The early champions appear to have emphasized the authors’ right over their work, arguing against the copyright transfer clauses of journals. This group advocated, in compelling fashion, the virtues of ‘open archives’, which use the technologies of the internet to make the literature accessible. Well maintained, freely accessible repositories coupled with the power of search engines appear to provide a readily, implementable solution. A second group, which may have emerged later, is driven by rising journal costs. This group is responsible for launching ‘Open Access Journals’ as a financially viable alternative in science publishing; encouraging a transition from the traditional ‘reader (library) pays’ model to an ‘author (funding agency/institution) pays’ model.

Most researchers I have encountered (and my experience is largely limited to India) have little interest in the ‘open access’ debates. As writers they would, of course, like to publish in the highest impact journals, regardless of issues of access. As readers they would like ready access to any literature that they seek, invariably demanding that institutions ensure access even to journals that are exorbitantly priced. The open access advocates have had little impact on the scientific community in India. Seminars discussing open access issues are invariably affairs in which the evangelists preach to the converted. The vocabulary of the open access movement is often unfamiliar. I was therefore pleasantly surprised to stumble across a book, *Open Access* by Peter Suber, which is an excellent and easily readable primer on the movement to make the results of scholarly work freely available. The author’s preface is engaging, urging readers to plunge on: ‘I want busy people to read this book. OA benefits literally everyone, for the same reason that research benefits literally everyone.’ Suber is clear ‘that the largest obstacle to OA is misunderstanding. The largest cause of misunderstanding is lack of familiarity, and the largest cause of unfamiliarity is preoccupation. Everyone is busy. There has been organized opposition from some publishers, but that has been a minor impediment by comparison’. His remedy for misunderstanding ‘is a clear statement of the basics for busy people’. I believe the book will serve this purpose admirably. The author notes that the book itself will be freely available, a year after publication (*Open Access*, Peter Suber, MIT Press, Cambridge, Ma, 2012). This is a book that must be read by those busy scientists who publish a lot, read a lot and have had little time to grasp the nuances of the open access movement. It must also be read (and read carefully) by strident advocates, who have little time to allay the fears of those

unfamiliar with the issue. I have often heard the cry in India that ‘government must mandate’ that scientists publish their work in open access journals. This is a dangerous call, which may create an atmosphere of government control, which is likely to stifle scholarly work. The book must undoubtedly be read by those who oppose open access. A little understanding may dispel many fears.

Stevan Harnad, a pioneer of the OA movement called the approach which uses repositories (often institutional) and voluntary self archiving as ‘green OA’. Open access ‘delivered by journals regardless of the business model’ is termed as ‘gold OA’. Green OA can be delivered if there is institutional will and community participation. Gold OA would, of course, be the most desirable. Many commercial publishers appear to be veering around to providing access, sometimes using an author fee and at other times using a time delay. As publishers and OA advocates continue their skirmishes, governments have begun to use the power of legislation to force delayed access after publication of publicly funded research. Both the United States and Britain already have legislation in place, which will undoubtedly be fine tuned in future. There is a need for India to revisit the area of copyright as it pertains to scientific research publications and to promote open access initiatives in a manner that does not impede the ability of scientists to publish in journals of their choice.

The open access wars have provided an opportunity for the rise of a new breed of publishers, who sense a commercial opportunity in the ‘author pays’ model of scientific journals. A recent commentary charges that ‘predatory publishers are corrupting open access’. I was struck by an unflattering reference to India: ‘Perhaps nowhere are these abuses more acute than in India, where new predatory publishers or journals emerge each week. They are appearing because of the market need – hundreds of thousands of scientists in India and its neighbouring countries need to get published to earn tenure and promotion’ (Beall, J., *Nature*, 2012, **489**, 179). The author argues that in the world of predatory publishing, peer review is no longer an important step in maintaining both quality and integrity. He is critical of open access advocates who ‘overlook the importance of validation in online publishing’. Open access conflicts have also led to the emergence of ‘extremists’ who practice what Suber terms as ‘vigilante OA’ or ‘piratical OA’. The hauntingly sad story of Aaron Swartz who was young, brilliant and passionately committed to open access illustrates the importance of recognizing that the ‘age of the internet’ has profoundly altered the way in which access to information is perceived. Swartz committed suicide after being prosecuted for ‘retrieving 4.8 million documents from JSTOR, a fee based repository’ (*The Economist*, 13 January 2013). Future generations may indeed dispense with restrictive practices altogether. Access barriers, like the Berlin Wall, will inevitably be torn down.

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