New York University and Webster University have promoted a model where all locations are considered part of one global university, diminishing or even rejecting the notion of home and branch distinctions.

We also have seen increasing sophistication from national quality assurance agencies about how to evaluate transnational education—some recognize that IBCs are unique educational entities and are modifying their policies and procedures as a result. Dubai established a new quality assurance system, the University Quality Assurance International Board, to make sure branch campuses are comparable in quality to the home campuses. Other educational systems, like those in Taiwan for example, are recognizing quality assurance decisions by foreign agencies as the equivalent of their own. Likewise, there is more evidence that due diligence by the home university has overtaken the serendipity and personal connections that typified first generations of branch campuses. This results in fewer surprises for branch campus leaders, better business and financial models, and strategies designed for sustainable growth. Where we used to see every announcement touting a new campus for 10,000 students within five years, now slow roll-outs of a planned and measured expansion are the norm.

Conclusions

This review of new directions for branch campuses leads us to make a few conclusions. First, cross-border higher education is no longer unusual. It should be seen as a viable and important option for all countries to consider in their higher education systems. Second, university structures and regulatory systems are adapting to new education forms; new forms are also adapting to the systems. This adaptation is an iterative process; we should not expect a static picture to emerge. Third, national strategies surrounding IBCs need to be taken seriously as exhibitions of national sovereignty in the education sphere. This means that political risks should be considered alongside academic risks. Regulations can change quickly in response to local concerns, and foreign universities may suddenly find their patrons out of power. Fourth, the greater integration of IBCs into national regulatory systems calls into question the common western assurances of academic freedom in the host country. Often the definition of academic freedom itself is in dispute, as countries delimit political freedom as distinct from the ability of scholars to teach and research freely within the foreign-backed branch. It is important that foreign universities and host countries develop common perspectives of their different systems, and we should expect compromise and accommodation rather than strict adherence to one perspective over the other.

Finally, how countries respond to the importing of foreign institutions provides insight into their educational and governance philosophies and may provide lessons for how the country will respond to other forms of internationalization.

The End of the Printed Scholarly Monograph: Collapsing Markets and New Models

DONALD A. BARCLAY

Donald A. Barclay is deputy university librarian, University of California, Merced. Merced, California 95343, U.S., 95343. E-mail: dbarclay@ucmerced.edu.

The worldwide market for the print-format scholarly monograph—a bulwark of academia's "publish or perish" culture—is collapsing. Sales of scholarly monographs in print format have hit record lows while per-copy prices are at record highs.

DISMAL SALES, RISING PRICES

The book-centric academic field of history provides an example of how sales have dropped. In 1980 a scholarly publisher could expect to sell 2,000 copies of any given history monograph. By 1990 that number had plummeted to 500 copies. By 2005 sales of a little over 200 copies *worldwide* had become the norm. Similar declines in sales have occurred in other academic fields as well.

Publishers around the world have responded to declining sales of scholarly monographs by raising prices. Take, again, the field of history: in 1980 the average price for a hard cover history monograph was \$22.78; by 2010 that price had almost quadrupled to \$82.65. Similar price increases have been seen in every other academic field.

ACADEMIC LIBRARIES IN CRISIS

Neither an anomaly nor a bump in the road, what the academic world is witnessing is a market collapse. A root cause for this collapse is the loss of buying power among academic libraries—including the relatively wealthy academic libraries of North America and Europe. Traditionally, the biggest customers for printed scholarly monographs,

academic libraries had no choice but to reduce spending on monographs in the wake of decades of increase in serial subscription prices. In the mid-1980s, the ratio of academic library spending on serials compared to monographs was roughly 50/50. By 2011 that ratio had shifted to 75/25 in favor of serials.

UNIVERSITY PRESSES IN CRISIS

In a perfect ivory-tower world, the economics of the printformat scholarly monograph would not be a consideration. After all, university presses were created for the specific purpose of publishing scholarship that, while rich in intellectual value, had little or no economic value. But with the exception of China's approximately 110 thriving university presses, and a few very large university presses (such as Cambridge University Press and Oxford University Press) that effectively operate as commercial presses through their publication of highly profitable academic journals, most university presses are not in great financial health. In a global higher education environment in which the subsidies university presses once enjoyed have shrunk or entirely vanished, editorial boards have no choice but to consider sales potential before accepting a manuscript for publication. Good luck finding a publisher willing to overlook the dismal sales prospects of your treatise on land-ownership patterns in the 12th-century Árpád Dynasty.

In those academic fields for which the publication of scholarly monographs remains the standard by which emerging scholars are credentialed, the resultant ethical dilemma is obvious. Is the academy going to stand by and allow the market to determine who succeeds and who fails as an academic? Should a Ph.D. student in the humanities be forced to choose a dissertation topic based on how a publisher will view its sales potential as a book, rather than on its contribution to human knowledge?

THE PROMISE OF OPEN ACCESS

The good news is that the pending economic death of the printed scholarly monograph does not mean the end of long-form scholarship. A number of leading scholarly publishers are taking steps to move the economic model of the scholarly monograph from a foundation in print to a foundation in digital and, simultaneously, from a focus on sales to a focus on open access.

For example, Stockholm University Press is actively publishing rigorously peer-reviewed and open-access scholarly monographs. Upon accepting a manuscript, Stockholm University Press requires the author to pay a one-time Book Publication Charge of £3250 to cover the entire cost of production, distribution, and marketing. Similarly, the University of California Press recently announced the pub-

lication of the first five titles as part of its Luminos initiative. Luminos titles are fully peer-reviewed, professionally edited scholarly monographs initially published as open-access ebooks, with a print-on-demand option for those who prefer physical books. Other notable examples of scholarly presses adopting open-access models for the publication of scholarly monographs include Amsterdam University Press, ANU (Australian National University) Press, De Gruyter Open, CLASCO (Consejo Latinoamericano de Ciencias Sociales), OAPEN (Open Access Publishing in European Networks), Berlin Academic, and others.

The good news is that the pending economic death of the printed scholarly monograph does not mean the end of long-form scholarship.

By relying on an economic model in which the cost of publication is supported by upfront underwriting rather than by sales of copies, open-access digital monographs have the potential not only to rescue the scholarly monograph from oblivion, but also to offer advantages over the printed book: Open-access monographs can be used, wholly or in part, as course texts at no cost to students. Digital formatting loosens constraints on the number of pages and illustrations, while freeing scholars to integrate into their monographs such digital-age tools as timeline-enhanced maps, data visualization, and video. Open-access also means that scholarship focusing on impoverished regions of the world can finally be read by people who actually live in those regions—millions of whom cannot afford the First-World price tag of a printed monograph.

HOW OPEN ACCESS CAN FAIL

In spite of its advantages, the open-access scholarly monograph can still fail if those senior faculty who make decisions about hiring, promotion, and tenure refuse to embrace it. Besides a lingering level of distrust of digital publication among some faculty in the traditionally book-centric academic fields, there are those who consider any underwriting of publication costs by the author and/or the author's institution as nothing more than vanity-press publication. For those of this mindset, new models of open-access publication rank with plagiarism and diploma-mill degrees in the pantheon of academic sins.

A strong argument against tarring open-access publication with the vanity-press brush is that there is no reason that monographs published under legitimate open-access models cannot undergo peer review and editing processes as rigorous as any undergone by traditionally published monographs. Quality peer review and editing are not, after all, functions of paper and ink.

Another counter to vanity-press accusations is that, with very few exceptions, the cost of publishing a scholarly monograph has always been underwritten in one way or another. In the past, the publication costs for any given printed scholarly monograph were very likely underwritten by a university press campus subsidy. Any argument that such traditional models for subsidizing the publication of scholarly monographs occupy some higher moral ground than do the emerging models of open-access scholarly publishing is entirely specious.

If, in the end, the forces of academic conservatism kill the open-access scholarly monograph by refusing to hire or reward emerging scholars who publish in this way, an unintended consequence will be the death of the scholarly monograph. Certainly, it is foolish to think that aborting the open-access scholarly monograph will save its print-format forerunner. The reality is that scholarly publishers, including non-profit university presses, cannot afford to perpetually lose money printing books that academic libraries cannot afford to buy. Open access offers an alternative to a market in collapse. Without such an alternative, production will inevitably come to a halt, and the scholarly monograph will become as much a relic of the past as the scroll and the illuminated manuscript.

Giving Credit Where Credit Is Due

PHILIP G. ALTBACH

Philip G. Altbach is research professor and founding director of the Center for International Higher Education at Boston College. E-mail: altbach@bc.edu. A different version of this article appeared in The Conversation.

It was striking that the headline on the first page of *China Daily*, on October 6, 2015, was "China wins first Nobel prize in medicine." Actually, Dr. Tu Youyou of the China Academy of Traditional Chinese Medicine won the prize, not the country. That same day, on page 4 of the *New York Times*, the headline read "3 share Nobel for work on treat-

ment of devastating parasitic diseases"—the article noting, almost in passing, where the three winners came from—: the United States, China, and Japan. It is one thing to celebrate the number of Olympic medals won by athletes from a particular country—after all, the medals are awarded with flags flying and national anthems blaring—but scientific achievement is quite something else. Another aspect of the irrationality of contemporary science is the explosion in the number of coauthors of articles in many scientific journals. Nobel credits and irrational co-authorship are illustrative of two sides of the same coin: systems of scientific credit have run amok.

WHAT IS THE NOBEL COMMITTEE AWARDING, AFTER ALL?

Nobel prizes are awarded for specific and notable achievements and, by implication, a lifetime of scientific work. The credit accrues to the researcher or sometimes several colleagues or scientists working independently on a similar topic. The country where the research was done has little, if anything, to do with the achievement. Indeed, as is often the case, the researcher may be from one place, and is working in another. The American who was co-winner in medicine, Dr. William Campbell, for example, was born in Ireland, received his bachelor's degree in Ireland and his doctorate at the University of Wisconsin. He did his prize-winning work finding treatments for parasite infections while at Merck, an American pharmaceutical company. Indeed, many Nobelists, especially Americans, were born and received part or all of their education in other countries. And many are no longer working at the universities where they did their pioneering work.

Thus, Nobel prizes are the work of individuals or teams. Increasingly, science is carried out by groups of researchers, often affiliated to a particular laboratory. The Nobel committee has yet to recognize the implications of the fully collaborative and international realities of contemporary science—they do not award prizes to groups and, indeed, limit the number of scientists who can receive a specific prize to three.

CREDITS RUN AMOK

If the Nobel authorities set hard limits for allocating credit, academic science may have gone off the deep end in the other direction. An article was recently published in *Physical Review Letters*, a respected journal, with 5,154 authors. Another *Physical Review Letters* paper from 2012 has close to 3,000 authors—21 of whom were deceased by the time the article was published.

One of the authors of the latest paper, Dr. Aad, who is listed first, will receive a huge number of citations, no doubt boosting his reputation and increasing the citation rate for his university. The topic was the Higgs Boson, and