Academic Authors and the Crisis in Publishing

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Academic Authors and the Crisis in Publishing

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A few years ago, our biology department hired a neuroscientist. As soon as he arrived, he stopped by the library to see what we had in the way of journals in his field. Unfortunately, we had none since he was the first neuroscientist on campus and nobody thought to mention it to the librarians. (We have a seat on the curriculum committee, but this new curricular development hadn’t shown up in the paperwork of course proposals or program changes. Nor, unsurprisingly, had it revealed itself in a mysteriously increased library budget.) Apart from expecting the library to support undergraduate research and study in his area, he quite reasonably planned to lump up his own research something not only needed for his own growth as a scholar, but required for tenure and promotion at our liberal arts college. He had been assured that interlibrary loan would supply materials we didn’t own locally. When I explained the “5/5” rule, he was appalled. Five? While the rule might not daunt a humanities scholar, used to quarterly journals that publish perhaps twenty articles a year, many science journals publish well over a thousand articles annually. It didn’t make sense to him. What’s the point of publishing results if they can’t be shared?

Herein is the conundrum of scholarly communication. The Constitution gives Congress the power “to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries”—a fairly straightforward balance between social and individual interests to be orchestrated by Adam Smith’s “invisible hand.” We can quibble over what is meant by “a limited time,” and we do, but the concept rests on the uncomplicated notion that tipping the balance too far in either direction would be bad both for individual authors and for society at large.

In the case of the academic author, however, things get complicated. Certainly, giving scholars the exclusive right to have their name associated with research findings is a powerful incentive that drives the production of new knowledge. Setting aside the abstract quest for truth, authorship of publications—particularly those appearing in well-respected scholarly journals—is essential for personal advancement. The self-interested scholar publishes in order to get tenure and promotion, win grants, and develop a bankable name in the marketplace of ideas. Yet it is the use of those publications, not their sale, that is the primary currency of exchange. Scholars aren’t rewarded through the sale of their texts, but rather through their being read and cited. They give away their legal ownership of those texts to publishers assuming that gift will make their ideas available for circulation. Once published, after all, their work will become a part of the record, a contribution to the common knowledge base on which other scholars can build.

The flaw in the argument, of course, is the assumption that those texts will be readily available. It’s an understandable mistake. For several decades after the birth of “big science,” and the mass infusion into academia of public funds for basic research, they almost always were. Academics produced knowledge, publishers published it, and librarians ransomed it back. Simple—until the random demands grew too high. It wasn’t until scholars began to have trouble getting their hands on the literature they and their colleagues produce that their faulty assumption became clear. It had been obscured by the fact that the reward systems for publishers and for academic authors are significantly at odds. And, while it’s tempting to simply fault publishers, the academic reward system itself is a significant part of the problem.

The Republic of Science Faces a Deficit

Michael Polanyi described science as a republic in which everyone plays a part in making and remaking knowledge. Though he was speaking of science in particular, it’s an apt description of making knowledge in any academic field. Authority is built on a network of trust and tradition, in that no one person or body decides what is true; it is decided by those who know enough to make those judgments. Yet floating tradition has its place, too. “While the whole machinery of science is engaged in suppressing apparent evidence as unsound, on the ground that it contradicts the currently accepted view about the nature of things, the same scientific authorities pay their highest homage to discoveries which deeply modify the accepted view about the nature of things” (66). Thomas Kuhn offered a somewhat more rambunctious picture of how this works in The Structure of Scientific Revolutions: the normal course of affairs is overthrown when significant anomalies are uncovered that call into question the regulations used by science to assess truth—a crisis that is “tradition-shattering.”

In either case, these models view the production of knowledge not as a process of piling up bits of truth incrementally through ongoing discovery, but of a social activity that depends upon a self-governing process of negotiation—a process in which (like the balance described in the Constitution) the self-interest of the scientist is largely consistent with society’s need for good science, assuming that the goal is knowledge and that the value accruing to scholars is their name attached to ideas that others can build on.

However, self-interest can influence the ways research is shared, often to the detriment of the public’s interest. Some scholars have their name attached to research to which they made little contribution. Others may rush into print with a discovery that needs more testing merely to stake their claim since, if a competitor beats them to it, it is instantly devalued. Authors may freely slice a piece of research into what Whitney Owen has called the “Least Publishable Unit” to seem more productive than they really are. Review committees too often ask “how much have you published?” rather than the harder question, “what difference does it make?” Across the disciplines, the marketplace of ideas is beset by inflation. It seems to take a wheelbarrow of publications to buy a loaf of credibility.

Peter Lawrence attributes these shenanigans to an obsession with mindless accountability, lamenting the fact that “rather than assessing the research itself, those who distribute the money and positions now evaluate scientists by performance indicators.” Scholars are judged on how much they publish and where—and quickly realize that “building capital in the hard currency of the audit society can be safer and easier than founding a reputation on discoveries” (259). This inflation makes it harder for scholars to keep up. Though the number of publications has grown, the time for any one scholar to scan the literature has not, forcing an inevitable narrowing of focus. The reward system has skewed the way scholars communicate, and that has altered how we create new knowledge.

Beyond the academy, the public has grown less trusting of scholarly expertise.Suspicions of conflicts of interest and a drive for accountability has led the federal government—which invests some $45 billion annually on basic research—to propose new rules requiring highly regulated peer review practices that some scientists fear run the risk of excluding all qualified...
call for disinterestedness. We need to look beyond whatever field we’re tending and think about the health of the entire ecology of knowledge. Because ultimately, when we treat the work that academics are expected to do to fulfill their contract with society as mere intellectual property, rather than as a contribution to a public resource, we run the risk that contract will not be renewed.

A bill recently introduced in Congress by Martin Saba, the “Public Access to Science Act,” takes a breathtakingly simple approach to this — it would remove copyright protection from works arising out of federally funded research. Why should the public pay for it twice? This solution, while bold and apparently sensible, is problematic because even those frustrated by the current system don’t want their work to be subject to alteration or reuse without attribution — actions that could harm the research record and won’t serve the public interest in the long run. We can negotiate better ways to retain sufficient incentives for authors and publishers while honoring the benefits of public knowledge.

Peek Review in the Internet Age: Five (5) Easy Pieces

by Gerry McKiernan  <GMCKIERN@GWGATE.LIB.IASTATE.EDU>

“...[In the digital world, the evaluation process stands ready to be reinvented in a clear, rational way by the relevant research communities themselves.]”

— Jean-Claude Guédon

Purpose of Peer Review
In general, peer review can be defined as “the assessment by an expert of material submitted for publication.” Specifically, its purpose is to ensure that published research is important, internally-consistent, original, technically-reliable, timely, well-presented, and most importantly, benefited from guidance by experts. Overall, “the underlying strength of editorial peer review is the concerted effort by large numbers of researchers and scholars who work to assure that valid and valuable works are published, and conversely to assure that invalid or non-valuable works are not published.”

Problems with Classical Peer Review
While established peer review has its supporters, it has long been criticized as “…slow, expensive, profligate of academic time, highly subjective, prone to bias, easily abused, poor at detecting gross defects, and almost useless in detecting fraud.” In a recent review article on the peer review process, Rowland analyzes and briefly characterizes many of the deficiencies of classic peer review as follows:

• Subjectivity
Summary rejections by editor without sending the paper to referees; choice of referees by the editor (choosing for example, a known harsh referee for a paper the editor wishes to see rejected);

• Bias
Discrimination against authors because of their nationality, native language, gender or host institution; situations where author and referee are competitors in some sense, or belong to competing schools of thought;

• Abuse
Too many articles out of one piece of research, or duplicate publication; intellectual theft: omission or downgrading of junior staff by senior authors; plagiarism (stealing others yet unpublished work that has been sent for review), delaying publication of potentially interesting research;

• Detecting Defects
Identification of factual errors within submission

• Fraud Misconduct
Fabrication of results; falsification of data; false claim of authorship for results.

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