Traumatized by Technology:  
Future Shock in Publishing Education

Stephanie Medlock

Publishing education traditionally has addressed concepts and practices rather than the tools, but the recent and rapid technologic changes in the tools affect the concept and practices and have blurred the lines between traditional career tracks in publishing. Academic and professional programs are scrambling to offer publishing education and training that meets the needs of this new world.

Stephanie Medlock delivered this speech on 27 March 1996 to the Chicago Book Clinic, a professional association of people involved in publishing, held at the offices of the Encyclopedia Britannica, Chicago, Illinois. Technology's effects upon scientific publication are far ranging, nudging managing editors and all others involved in scholarly media. For managing editors the implications are quite startling, since they are typically in positions that bridge editors-in-chief and production staff. It behooves managing editors to familiarize themselves with the latest technologic advances in the field in order to be conversant with other editorial personnel directly involved. Medlock's perspectives on education to provide this preparation follow.

BV Mossman, Guest Editor

When I looked over my notes from a talk on publishing education in the United States that I prepared in 1993, I realized how much the situation has changed since then—how many products and processes were so new at the time that I could only speculate about their impact. These products have become commonplace and are being replaced by an array of new options, which themselves are changing at an ever-faster rate. Technology is transforming publishing—from its finances to the range of its end products. This technologic revolution is also changing publishing education and altering some of our cherished notions of how well we can prepare students for the tasks they need to perform now and in the future.

In truth, the change occurred so quickly it was like being in the middle of a stampede. One month we heard the faint rumble of interest in computers for the classroom, and in virtually the next we were trampled by demands for instruction in computer-aided design, editing online, indexing programs, and how to access the Internet.

Both intellectually and financially, we felt unprepared. The problem is this: In the academic world, at least, publishing education has traditionally examined the concepts and practices of editing, design, production, marketing, and so forth independently of the physical processes used to carry them out. We have argued that once you understood good design, you could work with a designer to get the effect you wanted to achieve.

This reflected the realities of publishing. Until recently there has been a clear and separate demarcation among tasks and career tracks in publishing. An editor did not design, and a designer did not produce a finished piece. The printing technologies that finished the job of publication (and publication almost always involved ink and paper) remained substantially unchanged from the 1400s through the 1970s. The underlying economics of publishing have always been odd, but in the gentleman's world that publishing represented, it was considered acceptable to have the large majority of your books return a loss, as long as they were supported by those that did well.

However, linotype printing presses are now in the same category as chain mail and armor. From the 1950s, when the transfer from hot to cold type began, the change has accelerated and since 1990 has become a true revolution. Film, the mainstay of printing for the last 50 years, is being eliminated, and digitization is becoming the order of the day. The very definition of what publishing is has stretched to include electronic products that never involve paper and ink. And the jobs—well, I don't have to tell you. Editors are designing, designers are producing, everyone is trying to evaluate the profit-and-loss sheets, and the consolidation of various publishing houses has many people losing their jobs and others taking on the work of ten.

How do you prepare people for this new world and, more importantly, predict what they are going to need to know 5 years from now?

As recently as 3 years ago, I could confidently report that for a noncredit publishing program, the University of Chicago could cover all the bases. Today I can make this claim with much less confidence. We have just ordered our first classroom of computers to aid instruction in our classes. Getting instructors who are well versed in the technology and are also skilled at editing, design and production, and who are good teachers is proving quite a task.

One of those select people, however, is Mark Sweetnam, who teaches a class for us called "Multimedia and its Applications" designed to help the 26-and-older generation learn the intricacies of creating multimedia and Internet products. He confidently asserts that the process is not difficult; computers themselves have made learning easier.

Sweetnam's class is a perfect example of the frightening obsolescence we face when we try to plan what we will need to teach students year to year. Since he began his class 2 years ago, Sweetnam has had to redo the lesson plans completely each year and supply entirely new computers because the previous class's notes and equipment were always obsolete.

But I get ahead of myself. Before I go into what I hope will be a discussion with you on how the technologic changes affecting publishing can best be taught to students, let me begin with a short discussion of what kinds of publishing training are available in the United States and Canada. Then I will spend some time talking about the
Publishing Program at the University of Chicago. Finally, I'll return to the issue of technology and look at how it is altering the way we teach and the way we plan our curriculum.

**The World of Publishing Education**

For those of you interested in the educational opportunities related to publishing, the good news is that there are many programs from which to choose. One of the best sources of information about this subject is *The Directory of Publications Resources*, a wonderful booklet produced by Editorial Experts Inc. (EEI) in Alexandria, Virginia, which lists 55 organizations from California to New York that offer courses in the publishing field. Another resource is a new directory soon to be published by the Association of American University Presses that lists 32 organizations that offer training in publishing. More appear all the time. For example, the catalog from the University of Virginia describes a noncredit publishing program that it launched several years ago.

Of all these programs, 4 are correspondence schools, and the others may be divided into the following 4 categories:

1. **Degree programs in or related to publishing.**
2. **Professional organizations and consulting companies that sell noncredit publishing courses.** The latter are often presented at various locations in major cities across the United States.
3. **Summer institutes at educational institutions that offer an overview of the publishing industry and also offer job contacts.**
4. **Noncredit publishing courses, usually produced by educational institutions, directed at specific publishing skills from writing to production, and offered at a single location throughout the academic year.**

In choosing the program right for you, a problem arises when you begin to define publishing. Many of these programs are strictly limited to writing and editing. The majority of publishing programs are attached to the English or journalism departments of major universities and have magazine or general-interest newspaper writing in mind when they offer classes. Others, such as the Institute of Early American History and Culture at the College of William and Mary, offer a masters program with a 1-year editing apprenticeship related to the field of history. This is probably an excellent program if you wish to work for a scholarly journal but not one you are likely to invest time in if you are a technical editor.

So how do you choose? The outcome you want from the program can limit your search considerably. If you are after a degree in publishing, there are a grand total of 9 institutions in the United States with something resembling a publishing degree. There are usually writing or design degrees rather than programs that teach about the industry. You can apply to Columbia University (for a 2-year master's degree program in writing), to the University of Illinois, or to Syracuse University's Newhouse School of Public Communications. The University of Baltimore has a master of arts degree in publication design. The University of Southern California has a master's degree in writing and editing. Simmons College has a master of science degree in communications management. New York University has a master's degree in publishing, which it claims is a masters of business administration customized for the publishing industry.

With the exception of New York University, most of the degree programs have remarkably little to do with publishing as a business—if you define the discipline *not* as a grouping of individual skill components required to publish a book or magazine *but* from the perspective of an industry that creates product lines of books, magazines, or journals for profit.

An exception to this rule, ironically, is available in Canada. An example of a better-organized approach is the masters program in publishing at Simon Fraser University in Vancouver. Candidates for the masters in that program are required to complete six 5-credit courses plus an internship. Courses of the program include Topics in Publishing Management, Editorial Theory and Practice, Design and Production Control in Publishing, Text and Context, The History of Publishing, and Technology and the Evolving Form of Publishing. The degree requirements culminate in an internship report, which demonstrates the ability of the candidate to apply acquired knowledge in an industry setting.

It should be said here that publishing in Canada is subsidized, as is publishing education. There is a strong desire by the Canadian government to bolster and improve the prospects of the Canadian publishing industry, so it takes its role as mentor seriously. Simon Fraser also offers continuing education in publishing.

Here in the United States, publishing has somehow never acquired the status of a discipline. It would be hard to get a PhD in publishing, and, as a result, training in publishing has historically taken place on the job by people who have moved into the field from other domains. Only recently have professional associations and continuing education organizations taken up the challenge, but they have done so with gusto. Most of the many facets of book, monograph, or magazine publishing—from acquisitions, design, working with authors, editing, electronic design, nonbook products now bundled and sold with books, marketing, distribution, local versus overseas printing, CD-ROM technology, copyright and subsidiary rights, and so forth—are handled in detail by noncredit certificate programs.

The Book Clinic exemplifies a typical professional organization's approach. Such organizations offer training to their members and to the general public, either locally or nationally. Another example is Editorial Experts Inc., based in Alexandria, Virginia. For an extremely reasonable fee, you can take hundreds of courses from them on topics from news writing to learning Quark Express for Windows. These classes range from several hours to several days. They make no pretensions to an overarching vision or to getting you a job. These are
focused, skill-based courses designed to help people resolve publishing-job problems.

Next within the noncredit category are university-based programs. Some, such as the University of Denver or Radcliffe publishing courses, are intensive summer sessions often but not always designed for the recent college graduate. These condense the entire field of publishing into 4 or 5 weeks in the summer and offer the neophyte a fairly good chance at getting his or her 1st publishing job. New York University, for example, has a 7-week summer institute on book and magazine publishing where “aspiring professionals” can learn all of the basics of the publishing world.

How do the summer institutes operate? The University of Denver Publishing Institute advertises itself as a connector between recent graduates and publishing executives. Its promotional material states that its course is appropriate for recent college graduates and foreign students wishing to learn more about publishing in the United States, those in the publishing field who want to broaden their knowledge of the industry, and librarians. The particular lure is that in addition to getting intensive training in book publishing, you can network with the major publishers who do the teaching, and you can perhaps get a job with one of their organizations. As the institute’s brochure puts it: “Each week after hours gatherings on the campus lawns provide a more casual setting in which students might ask the questions they were reluctant to pose during official class hours. Thus are formed invaluable connections with the industry’s influential leaders.” The institute also gives attendees a week of intensive career counseling, which includes meeting the personnel directors from several publishing houses. It is clearly a “how to go from my degree to getting my 1st job” kind of program.

On the other end of the spectrum is the Stanford Professional Publishing Program Course, aimed at more senior managers. In 1996, its registrants will attend 13 days of instruction related to book and magazine publishing. Stanford’s course is designed to provide participants with a sequenced overview of the complete publishing process, from editorial development through layout and design, production, marketing, sales, promotion, and financial issues. Presented by leaders in the publishing and communications technology industries, the course offers seminars and case studies on a broad range of topics including making editorial decisions, conducting strategic planning, understanding copyright law, and assessing new technologies.

The University of Chicago Publishing Program
Where does the University of Chicago stand in terms of the degree or specialty programs? The University of Chicago Publishing Program tries to offer something of both. We offer courses year-round to beginners wanting to get a start in publishing in the most general sense and to seasoned veterans in specific publishing domains. You can enroll in a 1-, 2-, or 3-year certificate program that gives you a chronologic, hands-on education involving each phase of the publishing process from editing through design and production and the business issues. Or you can take individual long or short classes that are more narrowly focused.

For example, the Publishing Program offers specific courses in medical editing, the design of coherent charts and graphs, career trajectories in publishing, marketing, freelancing, substantive editing, the acquisitions process for technical publishing, and publishing finances. These speak directly to specific audiences and bring together participants in a workshop-like setting to help solve problems they all share.

History
The Publishing Program at the University of Chicago has been in existence for 20 years. What sets it apart from other programs is its relationship to the University of Chicago Press and that organization’s ongoing bestseller, The Chicago Manual of Style. This editing bible, developed by the University of Chicago Press in 1906, is in its 14th edition.

The University of Chicago Press’s staff formulated the 1st courses in manuscript editing with our office, the Center for Continuing Studies, in 1976 to train freelance editors in the proper use of The Chicago Manual of Style. Since that time, we have expanded the program to include many more courses. When I took over as director in 1990, we offered 17 publishing courses. In 1996-97, we will offer close to 70.

Because we are a certificate program, which is to say we do not provide grades or a transcript, we cannot guarantee that someone taking and completing our courses will be ready for the demands of professional publishing. There are no admission requirements.

Within that framework, we have to focus on quality of instruction rather than quality of outcome. The University of Chicago Press remains our 1st stop in the endless search for qualified instructors. They, in turn, refer us to professionals they respect outside the university. Our instructors have an average of 5 years of experience. People who attend our classes come from a great variety of backgrounds. Over 99% are college graduates. We have had opera singers and architects, grandmothers who saw themselves as writers of children’s books, and corporate communications executives sitting side by side in class.

According to the evaluations turn in at the end of the course, however, I think it is safe to say that the vast majority of students and the organizations they represent realize the goals they have when they enroll.

The future of publishing education: where do we stand? What are we doing? What do we need? One of the things our program tries to do is listen to accounts of what is happening in the workplace so that we can offer courses that meet their “skill/knowledge” needs. Predicting the future is a lucrative but chancy business, which is why I invite information about what aspects of your job are most frustrating and what you wish someone would teach you. We are always trying to be the first to offer courses that teach students about publishing’s future.

And there’s the rub. Where exactly is
publishing going? How many editors or designers or production people are needed to put out a publication? Is your publication going to be paper, or will it appear on someone's computer screen? Must your employees be collected in your building, or will they all work at home with modems and electronically send their input to a main organization? Should we teach CD-ROM applications or is that simply an interim technology? How and how often does a publishing company make the decision to upgrade technology, and where does it find the funds to finance these emerging markets?

In that final category, publishing economics, we are staking a claim to foreseeing the future. Over the past several years, I've had the opportunity to interview publishing CEOs about their training needs. "In what key areas do you feel your employees are most deficient?" I asked them. "Finances" was the universal reply. People don't understand the economics of the company as a whole, and it affects the efficiency of their decisions.

Our latest educational offering in this area is a week-long intensive residential seminar on the business of publishing. Focused on books, it takes up the practical and ungentle side of publishing—not should we publish this new exciting young author, but what does editing cost a publishing house per book, and why should you have inhouse editors if freelancers are less expensive, and what kind of contracts can you negotiate with a major wholesaler to distribute your merchandise or should you forget warehousing and use an 800 telephone number?

Forming 4 teams of mock publishing house staffs, all of whom are forced to focus on an imaginary bottom line, the 40 participants in this course will examine the role of editing, production, staffing, promotion, sales, marketing, and distribution, all from the point of view of the financial end result.

We have an experienced team of teachers and a fascinating group of visiting experts scheduled. Most usefully, the people who attend will be working on their roles within these publishing houses pretty much around the clock to create a 1-year plan for the launch for 6 hypothetical books. At the end of the week, their plans will be scrutinized by practicing publishing experts.

We will have computers available to help our students develop profit and loss statements, sales projections, and salary-administration programs. That brings me back to one of my central concerns—technology. Here I would like to refer for a moment to the 1993 version of this paper. I mentioned what was then novel, the CD-ROM, and I said, "We have several experts waiting in the wings eager to give courses on the use and future of CD-ROM technology. Until CD-ROM is in wider use among institutions and publishers of all sizes, however, it's hard to guess whether the subject generates enough interest to fill a class of paying participants." Hah! Sweetnam offered 1 class on multimedia in 1994 and the class was immediately overbooked. He now offers 3 classes, and his students beg for a multiple-session class. It is only the annoying fact that Sweetnam already has a full-time job that prevents us from chaining him to a computer to teach students around the clock.

Let's go back to a point I've mentioned before and that certainly affects instruction. A more dubious result of technology affecting all phases of publishing is the corporate belief, whether true or false, that productivity will rise with the convergence of diverse job functions into a single person. Writers can edit their own work with the aid of editing programs. Editors can design their own publications with the aid of Quark Xpress and Adobe Illustrator. Designers can produce whole publications if they have the appropriate computers, bypassing the printing process altogether. What suffers all too often is both publication quality and the employee's mental health.

According to the comments our students give us, the ability of people in traditional publishing roles to take on the multiple new tasks just because they have the equipment to do so is not assured. As corporations get lean and mean or turn more frequently to the use of freelancers to fill jobs formerly accomplished by inhouse staff, the possibility for error at every stage of the publishing process is increased. It does not stand to reason, for example, that because an editor now has the equipment to design a publication, he or she knows anything about design or has talent in that direction. The reverse is certainly true. Students who go into design are not necessarily verbally acute.

Our latest attempt to solve the problem is to acquaint students with the concepts and theories and then give them computer instruction so that they can see how these theories have been adapted to the computer. It means, in effect, twice as many courses and more instruction. We don't want editors to lose their adherence to a set of stringent and useful guidelines in editing, as they rush to learn how to edit online, and we do want them to be aware of the pitfalls of electronic markups.

The exciting and frightening part of this for us is that our curriculum is undergoing rapid change, emerging as new technologies develop and are adapted into regular publishing practice. Instead of a set curriculum, we now have to plan for an emerging one that changes from academic year to academic year. As an example, this year we are inaugurating a course on doing research on the Internet. This required us to wire a classroom for that purpose and to find an instructor who had done enough work with this developing technology to teach it to others.

We will also have a new course on editing online. At the moment, that course takes place over 2 days. In developing the course with the instructor, John Muenning, who heads electronic manuscript production at the journals division of the University of Chicago Press, we found that there are no up-to-date texts on electronic manuscript preparation, so he is writing one for the course. Because of the learning curve to master online editing, we will probably change this class from a 2-day seminar to an 8-week course within the year.

So there you have it. In order to do 1 set
of tasks, edit a manuscript, our students now have to take 2 courses. The first, basic manuscript editing, helps them with the concepts. In 8 weeks, it covers 800 pages of The Chicago Manual of Style and barely touches on electronic issues. The second, editing online, teaches students how to take the theoretical decisions and apply them to editing a manuscript electronically. Both the editing and the computer skills are essential if our students really want to be prepared for the job market. And to quote Muenning, "They don't have a choice. This is the way the world is going."

That edit applies to us in instruction as much as it does to our students. We also don't have a choice. Technology has ceased to be a secondary tool and has become part of the instructional process. In publishing, present methods are always subject to change, and the future begins with our next manuscript.

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**Executive Editor: A Scientist's Odyssey**

**Lewis I Gidez**

The 27-year odyssey of a scientist illustrates how training and experience in scientific research and an interest in scientific publishing led to a career first as a professional editor and then as the director of publications at the Federation of American Societies of Experimental Biology.

Many editors-in-chief rely on "professional editors"—a term used by my predecessor at the Journal of Lipid Research (JLR), F. Peter Woodford—to execute the myriad, and often mundane, tasks associated with publishing scientific research, which completes the creative act that begins in the laboratory of the author. Just who are these professional editors? In a 1970 article titled "Training Professional Editors for Scientific Journals" (1), Woodford described the editors-in-chief at most scientific journals as transient holders of editorial power, prestige, and responsibility who were usually amateurs in the process of publishing a scientific journal. To let these editors focus on the journal's scientific content, Woodford proposed the position of a professional editor, one with a scientific research background but who had also been trained "in the editing and management of scientific periodicals".

Many of the responsibilities of Woodford's professional editor are carried out today by those known as executive editors, managing editors, or editorial assistants. In contrast to Woodford's description, most such editors do not have scientific training or research experience. Nevertheless, as scientists today consider various career shifts and options, the role of professional editor may intrigue those with an interest in the communication of science. To provide some insight into such a career, this article describes the evolution of my career from research scientist-teacher to executive editor of a scientific journal to director of publications for the Federation of American Societies of Experimental Biology (FASEB), an odyssey of 27 years and continuing.

My editorial career began at JLR in 1969. By way of background, JLR was started in 1959, in part a result of the rapid methodologic advances in lipid biochemistry in the late 1950s. It was one of the 1st journals devoted to a specific area of biochemistry. The journal is owned by a not-for-profit corporation, Lipid Research, Inc., which is governed by a board of directors of scientists. It was, and still is, one of very few journals without organizational (society) or commercial sponsorship.

The role of an executive editor at JLR was conceived by Edward (Pete) H. Ahrens, who was the editor-in-chief from January 1964 to July 1969. His concept was of an executive editor who would "allow the Editor to concentrate on the most important aspect of his editorship: the evaluation of papers for publication. The Executive Editor assumed the responsibility for editorial processing, including implementation of editorial policy and subject editing, and publication management, including financial management, liaison with the publisher and the printer, and other activities related to journal management and production." (2)

In contrast to the practice of some journals today, the JLR executive editor did not and does not change in person or in location with each change in editor-in-chief. Rather, the JLR executive editor remains the same to allow a relatively seamless (and inexpensive) transition from 1 editor-in-chief to the next each 3-, 4-, or 5-year period. This has worked very well for JLR. The executive editor's office provides funding, logistic support, and advice and training and is the focal point for journal activities. This model has allowed editors-in-chief since 1970 to devote their time almost exclusively to the review process.