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Meeting the Challenges of Change

by **Adam Chesler** (Assistant Director, Sales and Library Relations, American Chemical Society)
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Back in the mid-'80s the most fascinating technology to make its way into our publishing office at **Kluwer Academic Publishers** was the fax machine. Not only could you send text documents anywhere in the world, but you could send images, too. Anything reproducible in two dimensions could be transmitted to our European headquarters in a matter of minutes; articles could be sent to (and received by) colleagues virtually upon request. This was *way* better than that clunky old telex machine or high-priced courier services. Of course, it could take a while for the image to scan, and the thermal paper on which documents were printed would curl up and disappear under a table half the time, and the reproductions were often smeared or impossibly light. But this was revolutionary! Communications were changed forever — documents could be sent like that (insert finger-snapping sound here)! What could top that?

You do not have to fast-forward too many years (past plain-paper, then color, faxes, past desktop computers and LANS and WANS, past the Internet and the World Wide Web, all the way to RSS feeds and podcasts and blogs) to know that plenty could, and did. The question is the same now as it was then: what are we doing with all that new and emerging technology? What impact have these changes had on the publisher who only twenty years ago was comfortably churning out printed journals and/or books for land, sea, or air delivery to individual users? It has been of a seismic quality, and it has altered the scholarly communications landscape forever. With it, though, comes the challenge to manage it as effectively as possible, which means everyone, including publishers, has had to introduce a lot of new, often expensive, ideas and techniques in order to keep pace with all these developments.

The Way We Publish

The most obvious changes are visible in the presentation of content, but what goes on behind the scenes is where the dramatic upheavals take place. *Then*: taking the accepted manuscript to the typesetter and after redaction, stitching together a printed copy between two covers along with

boilerplate pages (instructions for authors, editorial board, etc.), and perhaps some advertisements. *Now*: software (albeit with user-friendly interfaces) has been introduced to manage manuscript flow, covering the author, publisher, editor, and reviewer. DOIs and URLs must be assigned, and metadata — never before the province of the publisher, but rather that of the cataloger or abstractor — is attached to ensure the document is discoverable by search engines and via links from other documents. Hyperlinks are built into the document itself, to tables or graphs or images or multi-media components, as well as to citations or e-mail addresses. All of this must be done on a robust, stable platform that allows for migration when new technology is available.

The essential nature of publishing, as well as the basic concept of the article, is in transition. With regard to the former, when *is* something published: when a draft is posted on a pre-print server? When a post-print appears in an institutional or subject repository? When it appears in a “traditional” journal? With wiki technology and the capacity to make articles organic, when is there really a final version? As for the “article,” where once a table or graph or photo might be the only enhancements, now three-dimensional images (perhaps a molecule that can be rotated for viewing at different angles) or video or audio is included. Data sets can be made available at a mouse-click, and tables can be interactive, so readers may insert their own data into spreadsheets. Is the article just the series of paragraphs describing some research, or is it the accompanying data and background information, along with the enhanced visual or audio supplements? Is it a gateway of its own: a path to hundreds of other articles, via hyperlinked citations and references? Trying to adapt to the shifting ways of viewing content and sharing it with readers is what drives many decisions that a publisher makes about its intrinsic nature, its services, its mission, its make-up. Every decision has a ripple effect, so wrestling with these issues is a time-consuming, but necessary (and sometimes fun) challenge.

So how will we publish this stuff? At ACS, the **Paragon** manuscript system was introduced in the summer of 2002 to support online submission of manuscripts and reviews. Though it continues to provide useful service to our authors and reviewers, like that first thermal-paper fax machine, new requirements and capabilities (including the need to integrate the technology used at the editorial offices to manage the peer review process) drove ACS to implement an overhaul just a year or so after intro-

duction. Each of our journals will be moved onto the new environment in 2006, while the old one continues to run at peak speed. Technology, and the needs of the scholarly community, is changing so quickly that a “state of the art” system built just a few years ago might still be functional, but within a few years it is outdated. So this is one of the key areas in which publishers are dealing with manifest change in the 2000s: while evolutionary in the sense that things build upon themselves and improve, it is happening at a rapid pace.

Content

Similarly, the way content is presented changes often — daily, it seems. From the first rudimentary plain-text postings circulated by email to articles downloaded by FTP to multi-media orchestrations with full audio and video, available live or downloaded and re-played later, the delivery method for articles has changed dramatically. Multiple formats may be required, as researchers may prefer to save copies for later use, or print them for offline reading, using the hypertext version for online searching and browsing. Speed is critical, and articles can be posted as soon as they are publishable (including those aforementioned hyperlinks, since online, the value is about more than just the accessibility of the content itself, but the way it connects to additional information), rather than waiting for a fixed number of pages to be available as was the case in the print environment. All of this means that the publisher's delivery system and its production stream must be robust and flexible, as it gets tweaked and updated routinely.

Comprehensiveness is now a watchword, especially as applied to the publisher's content. Massive digitization projects to allow for online availability of back-files that predate the “born digital” era have been undertaken by many publishers (in the early 2000s, the ACS scanned over 460,000 articles — three million pages — dating back to 1879.). These PDF files had to be scanned, proofed, and tagged so they can be as easily retrievable as newer content. If you piled each scanned issue one on top of the other, the stack would have been eighty-one stories high. It took over a year and considerable expense for the scanning alone, and back-up copies for long-term storage were created on both DVD and magnetic tape. To ensure accuracy, the first and last pages of every issue, along with every 100th page, were reviewed by technical personal. This included human as well as computer testing, such as checks to confirm that content was legible and pages were properly proportioned. A team of people

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had to dedicate a lot of time — in addition to handling their regular assignments — to get this done.

Previously, the notions of comprehensiveness of collections and archives were for the library to ponder. Now publishers have a share in this effort, so resources are dedicated not just to the digitization, but also to the administration (of access, quality-checking, bringing on new content if and when it is available, increasing the resolution of scanned images, embedding links, etc.) of articles published over a hundred years ago. This has not only brought the publisher closer to its legacy, but it has also changed the relationship of the publisher to its authors. There are connections forged between current editors and staff and long-ago contributors, plus a better understanding of the history of our program, which helps us manage it. From the ACS's perspective, by making these thousands of articles newly available to millions of readers, we have been able to continue to fulfill a key component of our mission: to broaden access to chemistry and chemistry-related materials. Change, in this instance, has certainly been a good thing. There is now a greater appreciation for the stewardship role the publisher plays. While not all the questions about preservation have been answered, it is another topic of mutual concern and interest for publishers and librarians, which means one more concept is now a piece of common ground for collaboration and discussion.

The laudable achievement of making available hundreds of years of content on a global basis has created another challenge: as more readers view ACS content in countries where previously there was limited access, submissions to our journals have mushroomed (the ACS now receives more manuscripts from outside the US than from within). This means we have hired additional editorial staff to handle the growth of our publications, and it has driven us to open our first editorial offices in Asia and South America. We now have over 200 editorial offices world wide (all of which require IT/communications support), managing the day-to-day scientific and publishing affairs of our thirty-three journals and *Chemical and Engineering News*.

These increased submissions have added pressure to our base of reviewers. It can be difficult enough to attempt to referee a modest flow of papers, but with a flood of manuscripts (we are receiving fifty percent more than we were at the start of the decade), there is a lot of reviewer fatigue to counter. ACS has introduced workshops at its two annual meetings to try and develop new reviewers, encouraging (younger) scientists to participate in the scholarly process and alleviate the burden that has built up on more established

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against the grain people profile

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BORN & LIVED: Born in New York; lived in the Bronx; Teaneck, New Jersey; and the Boston area from 1980 - 2005; now reside in Alexandria, VA.

EARLY LIFE: I recall that I wasn't bald. I remember very little otherwise, because I get all weepy and bitter after that.

FAMILY: I have a younger sister and brother, both teachers; my sister has four children, the oldest turning 14 this year. Wife Marla works at the Library of Congress for FLICC/FedLink. Parents (along with my siblings) live in NJ; dad retired from teaching (and principal-ing) in the Bronx after over 30 years of yeoman service, and now is a full-time grandfather, and mom works as an orthodontal assistant (probably still paying off the braces we all needed as kids).

EDUCATION: BA in English and American Literature from Brandeis University in Waltham, MA, with studies squeezed in during breaks from track practice and cooking at the campus grill. And, um, socializing in a very civilized manner with my very mature classmates.

FIRST JOB: In high school: stocking and selling casual clothing at a privately owned store in Teaneck, NJ.

PROFESSIONAL CAREER AND ACTIVITIES: Started at Kluwer Academic Publishers in 1985 as a Marketing Associate in the Medical/Life Sciences division (creating brochures and space ads, setting up displays and attending trade shows, etc.). After a few moves around the department and near-terminations for various acts of insubordination (including the use of sarcasm in formal memoranda), was appointed Marketing Manager for Electronic Products and Services in 1997, and Director of Library Relations in 2002. After a brief stint at Ingenta, joined the American Chemical Society as Assistant Director, Sales and Library Relations in 2004. Member of NASIG, and elected to the group's board in 2005 as Member at Large. Have been heckled widely and often at numerous publishing, scholarly, and library conferences in assorted countries, and written a few articles (avoiding the use of sarcasm) about various publishing issues.

IN MY SPARE TIME I LIKE TO: Complete (or rather, try to complete) crossword puzzles; read; run (okay, jog); do what my wife tells me to do (see "Philosophy" below).

FAVORITE BOOKS: Hmm. Two that leap to mind: from years ago, *All the King's Men* (Robert Penn Warren); recently, *Lamb* (Christopher Moore).

PET PEEVES/WHAT MAKES ME MAD: Rudeness, particularly people who interrupt; highway rubberneckers, who, upon slowing down to stare AT THAT INCREDIBLE SIGHT OF A MAN GETTING A SPEEDING TICKET!!! should be instantly deposited, perhaps by the invoking of certain laws of quantum mechanics, at the very back of the traffic tie-up he/she is causing. Not that I spend a lot of time thinking about it.

PHILOSOPHY: "Happy wife, happy life."

MOST MEANINGFUL CAREER ACHIEVEMENT: I'm proud to have helped introduce Kluwer Online to the scholarly community in the late '90s, and to overseeing the implementation of Pubnet at Kluwer, which allowed us to process book orders electronically and eliminate thousands of hours of keyboarding for our customer service staff, freeing them up to handle numerous other tasks.

GOAL I HOPE TO ACHIEVE FIVE YEARS FROM NOW: To make significant progress in reading the stack of books I've bought over the past couple of years; to work with ACS staff, customers and contributors to develop policies and practices that allow us to continue broadening access to our content, in a sustainable and viable manner.

HOW/WHERE DO I SEE THE INDUSTRY IN FIVE YEARS: Still grappling with the ramifications of electronic publishing, although I think a "killer app" type of solution to digital preservation will be found. 🐼

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researchers. We did not ignore our reviewers in the past, but we are more acutely aware than ever before of how important it is to ensure there is an adequate pool of qualified referees so we can continue to publish the high-quality material chemists expect.

Administration

Another business component that has changed dramatically is information management. Previously, publishers processed the vast majority of their orders on magnetic tapes and later via EDI. Now, orders come directly from customers as well, which has meant that subscription processing tools have to be capable of managing not only title, agent, and payment information received in bulk but on a transactional basis as well, with IP addresses, multiple contact points (for licenses, for payment, for usage statistics), access activation procedures, and parent-child (that is, consortium-institution) relationships (sometimes multiple parent-child relationships) to boot. With so much content and account customization now possible (see below), publishers now look to tailor content packages for individual sites as well as consortia. This means our account managers and support team spend considerably more time customizing and managing arrangements for subscription packages, which pushes the start of our detailed planning for renewals from late summer/early fall to early spring.

At ACS, our in-house information management system is woefully antiquated. A multi-million dollar investment has been made to implement a customized third-party software system that will allow us to better manage our customer relationships on a stable platform. Staff will be able to more easily and quickly update customer records, process subscriptions and renewals, and provide useful data to our publishing and sales and marketing departments (after a whole lot of training, of course). We will also be better positioned to take advantage of the latest technology as our requirements (inevitably) shift over time, in concert with those of our readers, authors, and customers. Our manager for subscription services has been spending roughly one week per month on the development and implementation of this software. We have also tasked staff to dedicate their full attention (meaning, they work on this full-time) to the management of the process, which has been underway for over two years and will take, if all goes well, some eighteen months to fully implement.

Contact

An enormous change has taken place in sales and marketing. Once, the marketing department sent out flyers to end-users promoting individual journals and arranged to

attend professional (and the occasional library) conferences; there was, frankly, no sales department at all (at least for ACS). Today, the marketing department does in-depth analysis of cost per use and citations, studies market influence patterns, develops Web pages to support publications as well as the sales process, and provides ever more sophisticated reports for our editorial and governing boards. Our sales department, which started with one person in 1998, now includes four territory managers handling North, Latin and South America, and three more covering the rest of the world, in each case, working with numerous subscription agents. We have twelve people who manage agency and customer services, and who are responsible for order processing, access activation, renewal co-ordination, and payment tracking. We have one full-time person who spends roughly a quarter of her time managing the licensing process, shepherding agreements through the basic negotiation process to execution.

There is an increasing emphasis on building relationships with our customers. Instead of a faceless, monolithic bloc of "libraries," the sales and licensing team works with individual librarians to help provide the right content for his/her institution's needs. An extraordinary amount of time is spent working with consortia, customizing both content and pricing for groups that are often incredibly diverse, with members ranging from the largest ARL institutions downloading tens of thousands of articles each month, to the smallest undergraduate schools downloading a few dozen articles, but nevertheless finding great value in having on-demand access to this material. Crafting agreements that suit all parties involves a great deal of communication not only with various customers (and subscription agents), but internally as well: sorting out billing requirements, managing licensing terms, sorting out payment options. It sometimes seems that several departments are involved in the implementation of an access/subscription agreement.

Measuring Value

Introducing usage statistics also represented a change of great consequence. Now rather than relying on re-shelving counts (in the library) or anecdote (in the library and at the publisher), actual usage can be measured and tracked at both ends of the subscription relationship. Becoming COUNTER-compliant was a costly exercise, but now librarians and publishers have a better sense of the value of journals. It has also opened the door for the introduction of new business models, as we have moved from "broad-strokes" customization associated with providing more content for lower per-unit costs, to tailoring access profiles to the actual requirements of the institution. For example, a school with a small chemistry program and limited usage needs should not necessarily pay the same amount for a journal as a research university

with post-graduate degree programs and high usage. Usage, along with other proxies such as **Carnegie** classifications and user populations, allows publishers to provide customers with similar requirements with similar prices, rather than rely on a one-size-fits-all model.

Implementing a model that considers multiple factors (or models: what suits one group, such as academic libraries, may not suit another, such as corporate information centers) necessitates a lot of hard work and change (yet again) in the way the publisher thinks of its content. Is it a database of articles? Does the individual brand of the journal take precedence? Is a journal accurately priced based on its output and actual use by the community? Are the systems measuring usage accurate? Is there a way to accommodate users lacking in traditional subscriptions but with need for access: a token or pay-per-view model, for instance? Should different elements be married to create an ever more customizable, but inevitably more complex, pricing model? A lot of time gets spent agonizing over these questions. The answers drive even more change (to information and Customer Relationship Management systems, to Web delivery platforms, to staffing requirements).

There has been a change in the internal relationships that drive a publisher. At ACS, our sales team now meets annually (and communicates daily) with our subscriber support team, sorting out customer-service related questions and, in the spring and through the autumn, working on renewal plans on a customer-by-customer basis. In fact, our agency and institutional services unit now reports into Sales and Marketing, to better allow the teams that face customers to work together more closely and toward common ends. While many publishers are still learning the customer service ropes, most understand that relationships with their subscribers are no longer shielded by subscription agents, and they must be ready to provide answers and service to customers on a professional, not casual, level. That means adding staff, and training them on phone manner, responsiveness, and more sophisticated technology.

So, the previously distant relationship between publisher and customer has changed. There is now close collaboration on standards-based projects such as **COUNTER** (usage statistics) and **LOCKSS** (digital preservation), on working through complex issues on licensing and pricing (with the advent of Web-oriented publishing, publishers and librarians have many more opportunities for customization to address specific needs and situations), on distribution channels (local-loading initiatives or meta-search tools), and even on publishing itself (**HighWire**, **BioOne**, **Project Muse**). Several publishers have created positions tasked primarily with working directly with the library community,

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with a mandate to learn about, develop, and nurture these sorts of projects.

Evolution

It has been less than ten years since the ACS put its first journal articles online, and it is remarkable how substantial the transition has been and how it continues to evolve. The act of delivering a fairly simple PDF file has transformed into a hyperlinked, dynamic, community-based experience. For example, just look at Websites such as the one developed for our own *ACS Chemical Biology*, which includes not just basic research articles and commentaries (which also appear in the print version) but also wikis, blogs, interactive forums and q/a sessions — components unique to the Internet version. Perhaps that is the greatest change in all of this migration from a print-only to a Web-based environment: more opportunities for collaboration and partnership, a shift from insularity to inclusiveness.

The net result of these changes is a gain for all parties. Staff at ACS have become more aware of our business and business processes, of our journals and their histories, of our customers and their requirements. We have increased our global outreach by establishing new editorial offices and reaching out to millions of new users. We have developed new tools that address the needs of our readers, our authors, our editors, and our subscribers. We have made modifications (on the fly at times) in order to take advantage of the staggering opportunities made available by technology and the advice and needs of our constituents, and built up our organization with more highly skilled people (in IT, sales/licensing, editorial/production, and customer service), new equipment, and sometimes radically-transformed work-flows. All of this has been done at considerable expense and effort, but it has resulted in a better publishing organization. And we get to spend a LOT more time in meetings, so now everyone knows everyone else's favorite pizza topping.

Change is hard, and confusing, and can cause discomfort (training new employees as well as veterans on new software and procedures is difficult). Along with librarians, subscription agents, and researchers, over the past decade publishers have experienced enormous challenges to remain viable and vibrant in the evolving world of scholarly communications. But the positive outweighs the negative when everyone accepts that dynamics are in flux both internally and externally. Rather than panic over the short-term uncertainties and difficulties, we try to look at the long-term benefits that are attainable if we manage this process with an open mind, and an eye on stabilizing and strengthening our role in the research process.

ATG Annual Survey Report

by **Leah Hinds** (Director, Evaluation & Special Projects, Charleston Information Group, LLC., Anderson, SC; Phone: 864-224-4035)
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Executive Summary

Against the Grain's Annual Survey is designed to provide readers with library information that is unavailable anywhere else. The survey is an opportunity for readers to give opinions and statistics concerning libraries and librarians around the world. Results were obtained from readers who submitted surveys electronically and by mail. 48 surveys were submitted, a number comparable with the past two years' results (49 in 2004 and 36 in 2003).

Concerns in the Industry

The first survey question dealt with the top concerns of the industry for the 21st century. The top six answers are as follows:

1. Budget decreases/price increases/contracts and pricing/journal pricing — 35 (73% of respondents)
2. Digital Preservation/archiving digital resources/preservation of all formats — 21(44% of respondents)
3. Search technology/ **Google**/Internet competition — 18 (38% of respondents)
4. Loss of experienced personnel/need more trained staff — 8 (17% of respondents)
5. Use and purpose of physical library/role of library in electronic world/decline of library — 7 (15% of respondents)
6. Restrictive copyright/copyright issues — 7 (15% of respondents)

eBooks

When asked if their library has bought eBooks, 85% of respondents said yes, and 15% said no. This is up from around 7% reported two years ago, but is a 2% decrease from last year. The budgets for eBooks varied widely, from 0 to \$65,000. The average response was \$14,133.33. 14 respondents (42%) said they have no specific budget for eBooks, and 20 (42%) people did not answer the question.

Outsourcing

Library outsourcing is most common for approval plans, with 38% or respondents claiming this. Cataloging is next in line at 27%. 19% of respondents checked the "other" category; other items outsourced include binding, foreign language materials, and link resolvers. Only two people (4%) indicated that acquisitions are outsourced. Nine respondents (19%) said they outsource none of the choices listed, and seven people (14%) did not respond.

These results are comparable with the 2003 and 2004 results, in fact almost statistically identical. The only difference is in outsourcing acquisitions; it seems to be decreasing each year (from 2002). Nine respondents (19%) said they outsource none of the choices listed, and seven people (14%) did not respond.

Downsizing

56% of respondents say their technical services operations have NOT been downsized in the past two years (down from 60% the previous year); 44% have been downsized (up 4% from last year). This is one question that everyone answered, showing the strong feelings people have on the topic.

The specifics of the downsizing are as follows:

- Professional staff decrease — 8 (17% of respondents)
- Paraprofessional staff decrease — 12 (25% of respondents)
- Teams implementation — 1 (2% of respondents)
- Merge with cataloging — 7 (15% of respondents)
- Merge with ILL — 3 (6% of respondents)
- Other — 5 (10% of respondents)
- No Answer — 1 (2% of respondents)

The effects of downsizing are spread across the board — 15% say the effects were positive, 17% negative, and 13% indicated "other."

Budgeting

Since money was the number one concern for the industry in the 21st century according to the first question of our survey, here is the corresponding information regarding the budgetary reasons for this concern. In the past year, 67% of respondents indicate that their materials budget has increased, and the average increase was 5.6%. 10% say they have experienced a decrease (average decrease = 8.4%), while 17% say they have seen no change. Three people did not respond to the question.

The materials budget for books is much more widely split. 38% report an increase, 21% report a decrease, and 29% report no change. One respondent did not have a separate budget for books, and five people did not give a response. The average increase was 6.9%, ranging from 3% to 30%. The average decrease was 12%, ranging from 2% to 35%.

Journal budgets have increased for 48% of respondents, decreased for 25%, and have

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