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ACS Meeting News

From Manuscript To Journal Publication

Much of the process is automated, but technical editors still read every word of the manuscript

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A boisterous whoop of glee. A quiet sigh of relief. A glass of beer. Another experiment. Researchers react in various ways when they receive word that a journal has accepted their group's latest submission. They may be largely unaware of the metamorphosis that a peer-reviewed manuscript will undergo before it is published on the Web or in print.



Courtesy
of Todd Michael Janiszewski

Every Word Technical editors, such as Susan B. Hatfield, who works primarily on the journal *Biotechnology Progress* as well as on *Organic Letters* and *ACS Chemical Biology*, will phone an author for clarification on a paper, if necessary.

Joseph E. Yurvati of the American Chemical Society's Journal Production & Manufacturing Operations demystified the steps of the little-known process at last month's ACS national meeting in Atlanta. He spoke during a session he helped organize for the Division of Chemical Information.

Yurvati and the rest of the journals production staff work in Columbus, right next door to the Ohio State University campus. When he started working for ACS in 1971, journals were printed with metal type. Today, he is part of a project team involved with reengineering the journal production workflow for current and future electronic and print products. In his talk, he outlined a few of the key editorial production objectives: Assist authors throughout the publication process; ensure rapid publication; provide readers with consistent, high-quality journals; and keep costs down.

To accomplish those objectives as efficiently as possible, the ACS journal production process is divided into several steps, Yurvati said. Authors and reviewers may be familiar with the Web submission tracking system called Paragon. All [ACS journals](#) employ Paragon except *Chemical Reviews* and *Accounts of Chemical Research*. "These two review journals have a more complicated review process that the current review system was not set up to handle, but a future version will," Yurvati told C&EN. Once a paper is reviewed and accepted, the production team in Columbus uses a separate document-tracking system, called DOTS for short, to manage production of the papers and supporting information in all ACS journals.

Accepted manuscripts are received in Columbus in every version of Microsoft Word, including the very first one, and graphics arrive in

roughly 50 different file formats across the range of journal disciplines, Yurvati said.

An automated pre-editing program takes the first crack at each manuscript. It addresses approximately 4,000 common details, such as standardizing units (for example, changing ml to mL) and replacing British spellings with American spellings (for example, aluminium to aluminum).

Fifty-seven scientifically literate people called technical editors serve as another check on the science for the 35 journals currently produced. "In the journal production and manufacturing process, that's where all the hard work is done," Yurvati noted. Technical editors read every word and symbol of a paper's text, tables, figures, and captions. On average, they spend three to four hours editing a single manuscript. The time varies from manuscript to manuscript and could be considerably longer if a lot of work is needed to improve the readability, Yurvati told C&EN.

All of the technical editors at ACS hold at least a bachelor's degree in chemistry or a related discipline. Some editors also have master's or doctoral degrees or have completed some postdoctoral training. "They understand science, so if an author writes *n*-butyllithium, for example, but gives the formula $n\text{-C}_5\text{H}_9\text{Li}$, a technical editor would correct the formula and add a question to the galley for the author to answer." If an editor is working on a paper and needs clarification right away, the editor makes a phone call or sends an e-mail to the author, Yurvati added.

When necessary, these editors format references in ACS style, define nonstandard acronyms, check special characters such as Greek letters in equations, and review data tables for inconsistencies. "A lot of time is also spent fixing the grammar," Yurvati said.

ACS Journals At A Glance

ACS started publishing journals in 1879.

Sixty-one percent of the corresponding authors are outside the

U.S.

In 2005, ACS published 34 different journals, which consisted of 29,302 papers totaling 226,114 printed pages.

In 2006, *ACS Chemical Biology* became the society's 35th journal, and two other journals—*Biomacromolecules* and the *Journal of Proteome Research*—increased the frequency of their print publications.

Graphics may require some special attention, too. For example, a technical editor would query an author who refers to 12 tables but only submits 10, or who submits a figure with a mismatched caption. Journal guidelines for authors specify that graphics be submitted at the same size as they will appear in the text. Authors often submit readily usable graphics, but if necessary, graphic artists in Columbus can make some adjustments, Yurvati explained

When all of the pieces are ready, other members of the production team create galley proofs. These proofs look just like the journal's pages, but they have line numbers running along the sides of each page. Computers configure most of the layout design, and the page layout specialists make sure everything fits properly. When reviewing the authors' galley proof corrections at a later step in the process, the technical editors double-check the layout, Yurvati said.

Next, the corresponding author must review the galley proofs. A standard e-mail message originates in the Columbus DOTS system and alerts the author. The message contains instructions on how to access the proofs on the Web and how to reply to the technical editors regarding corrections.

Although the majority of authors return proof corrections via the Web, technical editors also accept corrections by phone, fax, or e-mail. Some authors even drop their corrections off at the door, Yurvati said. The Web members of the production team in Columbus will post the article to the respective journal's website as an ASAP (As Soon As Publishable) article as soon as 48 hours after receiving corrections.

At that time, indexing information is automatically sent to secondary

services, such as the Chemical Abstracts Service, Medline, and CrossRef, and the author is notified by e-mail that the paper has been published.

The date of publication for a paper in an ACS journal is the Web release date. Each paper also gets a spot in the journal's next available print issue. Piecing together a printed journal is analogous to putting together a puzzle. Some of the constraints include fitting journal articles of varying lengths into a certain number of pages or grouping the articles that contain color figures to control printing costs.

An audience member asked Yurvati if ACS has a standard amount of time between posting an ASAP article and that paper's appearance in print. The time frame really depends on when the paper is posted in relation to a journal's publishing cycle, he said. Some journals publish print issues weekly; others are biweekly, monthly, or bimonthly. All journals are currently printed by Cadmus Communications in Lancaster, Pa.

Another attendee asked how Columbus handles special or thematic issues of journals. Technical editors coordinate the scheduling of special issues with the journal editor's office, Yurvati said. If an author misses a special issue's deadline, that paper will likely go into a future issue of the journal with a footnote indicating the special issue for which it was intended. With an increasing stream of prolific researchers, the ACS journals pipeline stays quite full.

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