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SPECIAL ISSUE: ENHANCED JOURNAL ARTICLES

ARTICLE-LEVEL
ENHANCEMENTS IN
THE HUMANITIES
AND SOCIAL SCIENCES

HOSTING
SUPPLEMENTARY
MATERIAL

ARCHIVING
SUPPLEMENTAL
MATERIALS

DOIS FOR JOURNALS:
LINKING AND BEYOND

In the mid-to-late 1990s, electronic publishing visionaries held ambitious dreams. They predicted the end of the print journal and the emergence of virtual ones. Journal brands would eventually disappear and article bundles would take their place. Portals were the rage. Building community was a piece of cake. Scientific breakthroughs would happen faster with electronic journals. Ideas raced across the information superhighway.

DEAN SMITH AND WENDY QUEEN

ENGAGING THE READER

ARTICLE-LEVEL ENHANCEMENTS IN THE
HUMANITIES AND SOCIAL SCIENCES



The scholarly journal and its collection of articles in a given area provided the ideal format for online delivery. Its time had come. Newly minted webmasters scoffed at PDF articles and became zealots for HTML and JavaScript. It was the beginning of a transitional phase in scholarly publishing that is still progressing today—and the pace is picking up. Early advances in electronic journal publishing came from the STM publishers whose substantial resources and sense of innovation provided a blueprint for publishers in the humanities and social sciences.

Experiments such as the TULIP Project, Red Sage, and the work of individual publishers led the digital transition from print to web publication and drove early enhancements at the article level. Speed to publication, especially in the scientific disciplines became an industry differentiator. Initiatives undertaken to publish articles in advance of print such as ASAP Articles (As Soon As Publishable), first developed by the American Chemical Society in 1998, positioned the web article as the version of record—elevating it to prominence as distinct from printed copies of a journal article.

Large STM publishers such as Elsevier, Springer, and Wiley reinvented their journal collections by creating integrated platforms with marketing-driven titles such as Science Direct, LINK, and InterScience respectively. Magazines such as Nature and Science leveraged their strong brands to build innovative and dynamic web offerings. Society publishers such as ACS, AIP, and IEEE built engaging platforms for electronic delivery. Project MUSE and HighWire played a leadership role in assisting smaller publishers in other disciplines with lesser resources.

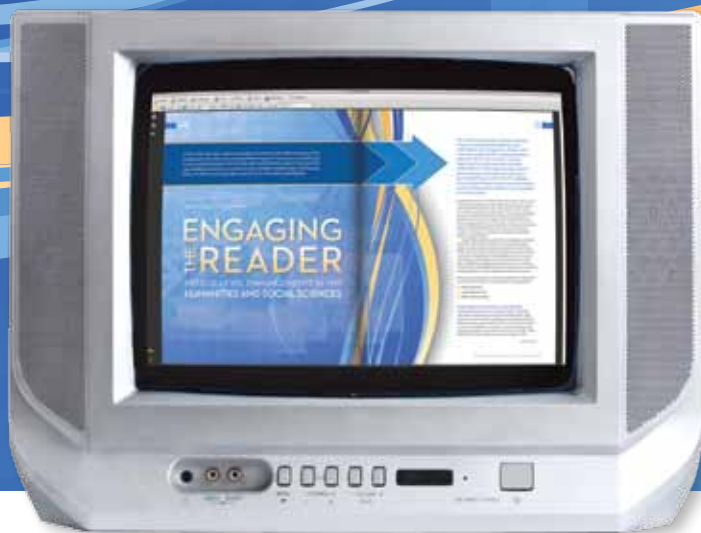
Three major developments over the last decade have shaped the environment for article level enhancement and engagement:

- 1 linking initiatives,
- 2 usage statistics, and
- 3 Web 2.0 technologies.

➤ Usage Stats Focus Attention on the Article

A groundbreaking initiative launched in 2002, COUNTER provided an international standard for measuring the usage of electronic journals and it established a level playing field for libraries to analyze and establish value. It also focused attention on the article. Publishers were able to analyze referring traffic and measure pathways into their content such as Google, Yahoo, EBSCOHost, Scopus, Web of Science, and ProQuest. They

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At the article level, end users voted with their keyboards and made PDF the predominant format. It was counter-intuitive to the medium of the web—liberating and free—to have an electronic version of the print facsimile, described by one publisher as “the pages of the novel on television.”

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could also measure the length of individual user sessions—emphasizing engagement. The possibility of digging deeper into the end-user mystery presented intriguing possibilities for publishers. We ended up measuring the “meat and potatoes”—article downloads, page views, and comparing HTML and PDF.

Standardized usage statistics presented a quantitative picture of article usage but we’ve only scratched the surface when it comes to understanding user behavior. COUNTER drove the evolution of metrics and fostered a yearning for more. Librarians now had the ammunition for cancellations in a way never before realized. Price per article download joined impact factors in the discussion and publishers devoted their energies to driving usage. New positions were created that focused on “search-engine optimization,” “user behavior” and “business intelligence.”

➤ Article as End Game...and Beginning

Reference-linking initiatives such as CrossRef and secondary databases such as Web of Science and CAS created robust systems of connections into and out of the full text across publishers. Google joined the fray with Google Scholar, creating a focused search environment for researchers. Coupled with their expansive vision for content digitization, this new scholarly search interface helped position Google as a leading tool for search and discovery of scholarly information. Subscription agents EBSCO and SWETS entered the content aggregation game. The fully searchable abstract gained prominence as the “snippet” or “gist” of content designed to draw readers into the full-text. Once there, publishers began working on ways to expand the reader’s options and envisioning the article as the launching point for discovery.

“In the future, we will look back at linking as the beginning of this idea of ‘article as gateway,’” said Judy Luther, President of Informed Strategies.

In the trenches at the article level, end users voted with their keyboards and made PDF the predominant format. It was counter-intuitive to the medium of the web—liberating and free—to have an electronic version of the print facsimile, described by one publisher as “the pages of the novel on television.” We went deep into the labyrinths of our legacy content databases and digitized our back files. Our R&D functions no longer had time to ponder the future of the journal and innovation; they were too busy feeding the online production stream. As we looked at our platforms after the turn of the century, we were somewhat underwhelmed. We’d created PDF PEZ® dispensers. What happened to the community we were building?

“What we have innovated on is primarily “distribution” (i.e., using a website and a network and a printer to move what is basically the same information), not the content of what is being communicated,” said John Sack, Director of HighWire.

➤ Web 2.0 Technologies Impact Article-level Engagement

Web 2.0 technologies and XML provided the inspiration for enhancements at the article level and breathed new life into the notion of enhancing discoverability, driving usage, and building community. There was talk of open peer review. Publishers started building digital end-to-end workflows. They purchased content management systems. Functionality came back into vogue. Beta sites for such prestigious publications as the NEJM and JACS started experimenting with widgets and applications found in consumer environments such as Amazon and iTunes. Blogs, wikis, podcasts, citation management programs, and RSS feeds enabled publishers to push article content out. Image galleries and cover displays were added to journal sites to engage a new generation of researchers. The visual aspects of content and design merged. The GUI, pronounced “goeey,” or “Graphical User Interface” took precedence for the first time.

“More Like This” functionality as seen on Amazon started appearing on scholarly journal sites. Publishers

became committed to user interface design and testing of their websites. The “drip-castle” approach to building platforms required a more robust commitment to information architecture and more cash. Collaboration, connecting, and sharing established themselves as core values for researchers. Websites addressed the constituent-based needs of authors, researchers, end users, librarians, and publishers with enhancements and resources delineated for each group.

The concept of “My Journal” and the idea of the semantic web provided a glimpse into what promises to be an exciting future for article-level enhancement. Adding new features to keep space with the speed of technology is what is needed to capture mindshare and remain relevant.

“Perhaps the most surprising single enhancement that just ‘took off’ was download to PowerPoint. When we were first developing it, we thought, people just Save Image As, or copy/paste into PowerPoint, so this won’t be a big deal. We were wrong,” said Sack.

➤ Enhancing Articles in the Humanities and Social Sciences

Significant differences exist in the digital evolution from print to web between STM journals and those in the humanities and social sciences. Published in February 2009, Mary Waltham’s study *The Future of Scholarly Journals Publishing Among Social Science and Humanities Associations* identified some of these characteristics. Rejection rates and longer articles contribute to higher costs for journals in the humanities and social sciences when compared to those in STM. University Press publishers lack resources to build platforms and print versions remained popular.

“A survey of Perspectives on History readers conducted in 2008 found that 63 percent read only the print copies of our serial publications,” wrote Robert Townsend, Assistant Director of the American Historical Association, on his blog.

University of Chicago and the University of California built platforms for their journal content. JSTOR served the academic community as an archival resource for libraries. A unique collaboration between a publisher and a library to provide not-for-profit publishers with a platform for their journals and libraries with a cost-effective solution to acquiring scholarly research, the Johns Hopkins University Press and the Milton S. Eisenhower Library launched Project MUSE in 1995.

“The cost of journals was going up higher faster than anything else and those cost increases were squeezing our ability to buy books,” said librarian Scott Bennett, who teamed with Press Director Jack Goellner to develop the original concept for Project MUSE.

Additional publishers joined MUSE in 2000, including Indiana University Press, MIT, University of Toronto, University of Nebraska, and the University of North Carolina. The MUSE publishing model delivers a sizable share—70 to 80%—of its subscription revenues back to publishers

while providing a large collection of journals to libraries at a minimal cost per title. Delivering more than \$70 million to publishers since 2000, Project MUSE is celebrating its 15th year and has demonstrated a track record for success, transparency, and excellence in providing high-quality scholarly content from not-for-profit publishers to the academic community.

Balancing the interests of 114 publishers, 450 journal communities, and millions of end users around the world, Project MUSE has achieved outstanding results by creating a robust digital environment for its readers. A new XML production workflow, Web 2.0 technologies, and social networking tools influenced the reinvention of the Project MUSE website in 2007. The focus of the redesign was to give the end user more tools at the article level with the goal of increasing the amount of time a user spends on the site. In addition to a more flexible layout, social bookmarking links, journal alerts, and linked subject headings were added for launch.

Immediately, the redesign received positive feedback from subscribers and end users. In addition to the enthusiasm, usage increased which inspired the MUSE staff to adopt a feature-per-month program. The program aims to incorporate recommendations from users as well as internal staff. The program, while ambitious, has provided MUSE the opportunity to have a fresh, constantly evolving site while collecting additional end-user behavior statistics. The statistics have provided the metrics to further learn what tools are widely used and how users are engaging with the content. The first year of the program produced a wide-variety of new discovery tools (see sidebar).

Project MUSE also adds value at the article level through an indexing process by providing a controlled vocabulary and name authority recognition. The indexing is contributed by an internal staff of six professional librarians. As a result, MUSE provides clickable subject headings on every article, as well as table of contents and search results, which bring together topics and subjects in a more precise fashion. These are also used in the “More Like This” algorithm and in search relevance ranking.

Overall, the program and article level enhancements have been a success. The creation of additional functionality at the article level has increased the amount of time a user spends on the site. The average session length has increased from 1.25 articles per session in 2008 to 2 articles in the 1st half of 2010.

Project MUSE plans to expand the program through 2011 by enhancing existing functionality, improving alerting technologies, and adding tools that increase awareness in specific subject areas. In addition, MUSE will continue to expand the platform and tools to create even greater connections between content and formats. The usage metrics have provided the basis for a forward-thinking blueprint to embrace innovation and remain relevant. As the program continues, the aim is to continue to increase the session time and overall usage.

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Project MUSE

Feature-Per-Month Discovery Tools:

- Journal Search - ability to search within a specific journal
- More by Author - ability to search within MUSE, Google, and WorldCat
- Summary Pages - highlighting abstracts and Library of Congress Subject Headings
- Frequently Downloaded Articles browse at the journal level
- Frequently Downloaded Articles browse at the site level
- Tweet This option
- More Like This
- Subject Browse through the exploration of Library of Congress Subject Headings
- Reference-linking
- RSS feeds for Table of Contents
- Social bookmarking tools
- PDF covers - enhancing the platform and journal branding while providing links to additional content

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"Increasingly the value of content is being influenced by its functionality," said Judy Luther. "Providing an array of tools and content types including video and datasets for additional exploration approaches this idea of 'article as gateway'."

Thinking forward, MUSE plans to further expose its metadata and create an opportunity to develop even richer partnerships within the research community. MUSE is also exploring user-contributed data—evoking participation beyond the basics of social media, i.e., Twitter and Facebook.

► MUSE & Multimedia

Project MUSE has been supporting articles with audio and video since the late 90s. Journals like *Postmodern Culture* and *Advertising & Society Review* have enhanced the reader's experience by embedding multimedia. Some of the most widely used articles in MUSE have embraced the use of interactive content. As publishers conceptualize new approaches to constructing an article enriched by multimedia, MUSE strives to provide a state-of-the-art technical approach. *Advertising & Society Review* and its digital textbook companion, *ADText*, published by the Advertising Educational Foundation (AEF), include video examples and maximize the use of technology: video, audio, rich graphics, and other dynamic content.

"ADText: An Online Curriculum is distributed together with Advertising & Society Review on Project MUSE," said Paula Alex, CEO of the AEF. "ADText is a 20-unit living textbook about communications, marketing, and advertising. It is the first comprehensive digital textbook about advertising and its impact on society."

Through these publications, the AEF has built an interactive bridge between the advertising industry and the halls of academe where the cultural position of Madison Avenue is examined.

ADText is about to add another innovative feature at the article level, an audio interpretation by paragraph in Spanish (available in the Fall) and Mandarin Chinese (in 2011) to facilitate usage and understanding around the world.

"TV commercials and print ads are embedded in the text. It's completely innovative from a teaching and education point of view," said William M. O'Barr, Ph.D., Duke University, author of ADText.

MUSE publishers continue to express an interest in a more dynamic community-based web presence. In 2011, Indiana University Press will launch a new multimedia journal, *African Conflict and Peacebuilding Review*, which will once again alter the traditional journal paradigm.

"ACPR will set new standards for enhancing the journal at the article level by leveraging today's online capabilities to offer a media-rich, interactive electronic edition of the journal, including podcasts and venues where contributors and users can interact," said Kate Caras of Indiana University Press.

► Going Mobile

The emergence of mobile technologies will be a game changer. An article entitled "Looking Ahead at Social Learning" in *Training and Development Magazine* reports that by 2015, more people will connect via the Internet through their mobile device than by PC.

"Mobile gives us the opportunity to rethink the article 'box,' because articles don't just 'shrink to fit' for mobile devices," said John Sack. "I am hopeful that we can apply that rethinking outside of planning for mobile. For example, as we think about use cases for mobile—which should guide what we 'mobilize' and how—we should also think about the use cases for information in other media and devices," said John Sack.

Smartphones, iPads, and e-readers are already in the process of transforming the face of publishing forever. The mobile climate provides MUSE the opportunity to create new and different tools resulting in a fresh end-user experience. While accessible on handheld devices now, MUSE is working on a mobile site to launch in 2011 and investigating discovery apps.

"After 15 years of putting the print online, we need to be sure we don't spend the next 5 years putting the online website on mobile wheels. That would be a lost opportunity," said Sack.

➤ Towards a Content Community

The future looks bright for articles in the Humanities and Social Sciences. Much progress has been made on the electronic front, but the migration from print to web has been gradual. There is a lot of excitement around e-books and initiatives that are underway to digitize the scholarly monograph and make it discoverable. The scholarly monograph's time has come.

Project MUSE will launch an integrated content platform in July of 2011 that will include a collection of e-books from a selection of university presses. A similar initiative funded by Mellon will bring 50 university presses together on an e-book platform.

As we continue to enhance the user experience at the article level, traditional content formats are beginning to blur. A search for information on any academic library website will return results that include journal articles and book chapters in one place, side-by-side, and stripped of the branded publisher environment.

"Over the past two years, we're beginning to see books and journals appearing together on the same platform," said Judy Luther.

A move towards the integration of multiple content formats—journals, books, reference works, datasets, YouTube videos, and others—on a fully-discoverable platform has begun.

"I do think its importance will increase as more and more researchers depend on the online content to provide supplemental data to the more traditional scholarship," said Cason Lynley of Duke University Press.

In the book *Groundswell*, authors Charlene Li and Josh Bernoff wrote that the Net Generation will "use technologies to get the things they need from each other, not from traditional institutions." Freedom, fun, collaboration, and customization are important values to the Net Generation. The reader of the future will use technology to push the boundaries of creativity, collaboration, connectedness, and community-focused interaction.

"Research in humanities—at least as I did it years ago—is pretty different. A lot of work with primary sources," said John Sack. "We need to find ways to tie the resources that humanities scholars and social science researchers use into the online 'web' of information."

Project MUSE has created a dynamic content community for scholars in the humanities and social sciences, established a home for publishers and libraries with a common purpose, and will continue to innovate through a shared sense of collaboration at the article level.

"Project Muse just keeps getting better and better, and inclusion in the database is essential to the success of any journal—especially a new title—in today's increasingly online world," said Kate Caras.

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RELEVANT LINKS



ADText
www.adtextonline.org

COUNTER
www.projectcounter.org

Google Scholar
scholar.google.com

JACS Beta
pubs.acs.org/JACSbeta/

Looking Ahead at Social Learning. Training and Development Magazine, July 2010.
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