



## LETTER FROM THE PRESIDENT

In this issue, we introduce JSTOR's new executive director, Mike Spinella. I could not be more excited that Mike has agreed to join JSTOR and take over responsibility for our next phase of growth. For a young organization, the first leadership transition can seem momentous, but it need not be so. I had the good fortune to work closely with Mike when he was at the American Association for the Advancement of Science (AAAS) and I have always found him to be fair, thorough, and committed to the broad interests of the scholarly community. JSTOR is in very good hands.

As people have heard the news about Mike's new role at JSTOR, naturally there have been questions about my plans. I will continue to play an active role in JSTOR as the Chairman of the Board of Trustees, and I will also be working closely with Mike over the coming months to ensure a smooth leadership transition. As we complete that transition, my focus will shift to leading a new not-for-profit enterprise called Ithaka, which is in its infancy. Named for the poem by C.F. Cavafy about a journey marked by high purpose that overcomes imposing difficulties and enriches understanding, Ithaka will focus its efforts on three interconnected spheres of activity: incubating new projects and enterprises; supporting a family of affiliated organizations by sharing resources, experiences and strategies (JSTOR and ARTstor will be the first affiliates); and conducting comprehensive research on the impact of technologies on the scholarly community.

As this will be my last "Letter from the President," I want to take this opportunity to thank you for all of your advice and support over the years. Your feedback has been instrumental in guiding JSTOR in its efforts to be a collaborative endeavor for the community. We will continue to look forward to your comments, criticisms, and suggestions.

*Kevin M. Guthrie*

## A BRIEF Q&amp;A WITH JSTOR'S NEW EXECUTIVE DIRECTOR, MIKE SPINELLA

On February 24, Mike Spinella joined JSTOR as Executive Director. After a transition period during which Kevin Guthrie will work alongside Mike to share organizational history and knowledge, Mike will assume responsibility for all operational activities of the organization. Kevin will continue to be involved in JSTOR, but in a new role as Chairman of the JSTOR Board of Trustees.

Mike is known to many of JSTOR's participating libraries and publishers from his work at the American Association for the Advancement of Science (AAAS), where he held a variety of positions since 1990. AAAS is the non-profit publisher of the journal *Science*. At AAAS, Mike played an important role in developing site licensing and access models for *Science Online*. He also was instrumental in the decision to include *Science* in JSTOR's General Science Collection back in 1998.

Prior to his work at AAAS, and after receiving his B.A. in English and Philosophy from the College of William and Mary, and his M.A. in English Literature from the University of Virginia, Mike learned the publishing business managing the circulation department of a small, but fast-growing, publisher of trade titles in Washington, DC. While at AAAS, Mike also completed his M.B.A. at The George Washington University.

Although he has been at JSTOR just a few days, we thought a brief Q & A would be a useful way to introduce Mike and allow him to share his impressions of JSTOR as he assumes his new position.

**Q.** You had a very successful tenure at AAAS. And lately you've been enjoying building a publishing consultancy. So, what attracted you to JSTOR?

**A.** I've been involved with JSTOR, as a publisher participant, since 1998. In observing JSTOR's activities during that time,

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I've admired the way the organization has conducted itself in the community. I've also been impressed with the continuing high quality of the archive as it has grown. JSTOR has been a leader and has made a difference. Coming to an organization like JSTOR represents a wonderful opportunity to have a positive impact on the scholarly community.

I especially appreciate JSTOR's "win-win" approach to the communities it serves. The partnership we developed between AAAS and JSTOR to include *Science* in the General Science Collection proved to be a great success for AAAS and for the scholarly community as a whole. JSTOR provided a well-considered model for addressing the long-term preservation of *Science* while at the same time offering enhanced access to *Science* backfiles for the scholarly community—a service that resonated with AAAS' mission to disseminate the work of scientists. JSTOR also collaborated with us to enable individual AAAS members to access *Science* backfiles—a member benefit that proved to be very popular.

In addition to my positive impressions of and experience with JSTOR, I am inspired by JSTOR's mission. It is exciting to come to an organization that has worked effectively and closely with librarians and publishers to address the challenges of the transition from print to electronic dissemination while building collections of real significance. Some of the work preserved digitally by JSTOR is so old that pages are deteriorating and the materials could be lost. In other cases, there may be only a handful of copies still extant and available to the scholarly community. JSTOR's efforts have saved them from physical destruction or obscurity, and in fact made them far more accessible to scholars everywhere. I am also inspired by the breadth of disciplines covered by the JSTOR collections. I would be glad if I could help to expand that coverage even further, with the guidance of our library and scholarly participants.

**Q.** JSTOR has worked hard over the past 8 years to take a system-wide approach in building this archive of important scholarly literature, taking into consideration the needs of the library community, the publishing community, and the scholars themselves. You obviously bring a publisher's perspective to JSTOR. How do you see that perspective impacting the organization?

**A.** I think JSTOR's system-wide perspective is one of its great assets and is one of the keys to its success. I have been working closely with the library, scholarly, and publishing communities for many years and expect to deepen those relationships at JSTOR. I will not lead JSTOR into a more publisher-centric model, but I hope that my understanding of the economics of scholarly publishing can enrich the dialogue among the communities that JSTOR serves and help lead those communities to realistic solutions to some of the key challenges facing academia. I understand that the goals of publishers, libraries and scholars are not always perfectly aligned, but I believe that the community has more in common than is often recognized.

Naturally, I expect JSTOR will continue to emphasize the importance of preserving and archiving scholarly work over the very long term, as well as the need for broad accessibility of scholarship to an international and diverse readership. But I will also look for areas where JSTOR's perspective on important issues can help us to make a constructive contribution to the

community. For example, JSTOR recently raised awareness about the access control problems that can occur in networks that include, intentionally or not, open proxy servers. This is not a problem specific to JSTOR, but it is a problem with broad and potentially very serious implications for the community. I am impressed that JSTOR chose to take a leadership role in addressing the problem. In the appropriate circumstances, this strikes me as a valuable role for JSTOR to play.

**Q.** What do you see as the greatest challenges for JSTOR as you assume the position of Executive Director and begin to focus on JSTOR's future activities?

**A.** As I see it, the main challenges for JSTOR revolve around growth, stewardship and functionality. However, I should first acknowledge that the leadership transition we are now embarking on is the most immediate challenge for the organization. Obviously, given the fact that I am here and Kevin is moving to a governance role on the Board of Trustees, we are entering a new phase in JSTOR's existence. Having met the terrific JSTOR staff and participated in my first Board of Trustees meeting, I feel comfortable saying we are off to a good start.

I mentioned that growth is one of our strategic challenges. JSTOR has over 2 million articles in its collections—an impressive start—but there is much more that can and should be done. There is ample scholarship that still needs to be digitally preserved and made available online. The community that has come together to make JSTOR successful will naturally raise its expectations about the breadth and functionality of JSTOR collections. Consequently, we must manage our growth very carefully, improving the comprehensiveness of the subjects we cover, adding new disciplines, and simultaneously pushing to adopt or invent new ways to enhance the benefits JSTOR offers to scholars, librarians, and publishers. Another dimension of growth is reaching out to new communities of scholars. By making scholarly literature more readily available in developing countries and more accessible to vision-impaired scholars, for example, we could significantly expand the value of the archive to the community as a whole.

When I note that stewardship is a key challenge, I am referring to our commitment to preserve and protect the archive over long periods of time and through the many changes in technology. JSTOR is about to embark on a significant and complex infra-structure upgrade. Migration to new platforms and technologies is part of our core mission and mandate as an archiving organization. While we have certainly conducted projects of this type before, the infrastructure change now facing us is probably our most ambitious migration to date. We expect to be working collaboratively here, as well, to help develop a base technological infrastructure for archiving digital materials that can be shared by our community.

Finally, in our networked environment, I see increasing benefits from working collaboratively to add features and functions that will help scholars navigate and locate content more efficiently. Now that a large and valuable digital collection is in place at JSTOR, the next stage of development will require much more coordination and cooperation among different stakeholders. We already link current content from some publishers' sites to the articles archived in JSTOR (and vice-versa). Next, we need to engage the community in

dialogue about what the next generation of features should be, and work with our constituents to prioritize and implement the most valuable ones.

I am excited about working with the talented people on the JSTOR team to help make these possibilities a reality. While there are complex challenges ahead, JSTOR has a bright future, a committed staff and leadership, and deep, productive ties within the community. I look forward to continuing JSTOR's tradition of collaborative creativity!

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#### NEW CONTENT PROVIDES INTERESTING NEW CHALLENGES AND SOLUTIONS

**A**s the JSTOR archive expands to include new content in new subject areas, new challenges are introduced in our continuing efforts to provide "faithful replications" of the journal content as it was originally published. While JSTOR is primarily an English-language archive, we are finding that as the breadth of our content expands, we are increasingly working with languages other than English. Additionally, the metadata that we create for this non-English journal literature includes non-alphabetic characters that must be captured and displayed. Prior to two years ago, JSTOR's efforts in this area primarily relied on the use of LaTeX, a markup language intended to represent mathematical formulae and scientific notation. While JSTOR still employs LaTeX where appropriate, with the introduction of the Arts & Sciences II and Language & Literature collections, both of which contain numerous non-ASCII characters in their corresponding metadata, JSTOR decided to pursue an approach to non-ASCII keyboard characters that was based on a more broadly accepted standard. After careful internal discussion and consultation with various participating libraries and publishers, JSTOR adopted the Unicode standard, which is widely recognized and has been successfully implemented within the academic and publishing communities.

#### *What Is Unicode?*<sup>1</sup>

Fundamentally, computers just deal with numbers. They store letters and other characters by assigning a number for each one. Before Unicode was invented, there were hundreds of different encoding systems for assigning these numbers. No single encoding could contain enough characters: for example, the European Union alone requires several different encodings to cover all its languages. Even for a single language like English no single encoding was adequate for all the letters, punctuation, and technical symbols in common use. These encoding systems also conflict with one another. That is, two encodings can use the same number for two different characters, or use different numbers for the same character. Any given computer (especially servers) needs to support many different encodings; yet whenever data is passed between different encodings or platforms, that data always runs the risk of corruption.

Unicode provides a unique number for every character, no matter the platform, the program, or the language. The Unicode standard is organic and is continually expanding and

offering new character sets to its users. For example, one among a number of proposals currently under consideration by the Unicode consortium is a hieroglyphics character set.

#### *Unicode At JSTOR*

The use of Unicode allows JSTOR to display character systems ranging from Greek and Cyrillic (as well as diacritics for Western European languages), to Arabic, Hebrew, the Chinese/Japanese/Korean orthographic systems, and Devanagari (used for Hindi and Sanskrit). Unicode also allows for representation of various non-alphabetic symbols such as currency signs, arrows, specialized punctuation, and simple musical notation.

As with any change of this kind, the implementation of Unicode meant a significant number of changes behind the scenes at JSTOR. Additionally, it was recognized that while the use of Unicode was a step forward in displaying characters, searching functionality was still limited to the use of ASCII characters. Therefore, along with the implementation of Unicode came a decision to accompany Unicode representations with corresponding transliterations that were searchable using standard US keyboard characters. By using standardized transliteration schema, JSTOR embraced a long-standing approach to representing non-Latin characters that provides scholars a familiar way to use the JSTOR metadata in their search strategies. One of the inherent challenges of this approach, however, was that many non-Latin orthographic systems have more than one standardized transliteration scheme, and JSTOR needed to select one for use and then be consistent in its application.

Since adopting the dual Unicode/transliteration approach, JSTOR has developed processes for handling many ongoing challenges. During the pre-digitization preparation phase of a journal, the JSTOR Production Librarians' review of the journal's back run includes identifying any as of yet unencountered orthographic systems and/or characters that will appear in the JSTOR metadata. When these are located, we search through the extensive Unicode encoding charts to identify the character system, if it is not obvious from the context in which the text appears. Then, we document the appropriate character system in our indexing guidelines. In cases of individual non-alphabetic characters, we also provide the precise Unicode values and transliterations to be captured in the metadata files.

However, when new-to-JSTOR orthographic systems are encountered, a more robust process kicks in. When the orthographic system is identified, the Production Librarians contact JSTOR's Publisher Relations, Library Relations and User Services units for assistance in locating and contacting potential consultants among the JSTOR community who possess the necessary language expertise to assist us in selecting the most widely accepted and practical transliteration scheme. After consulting with these experts, a transliteration scheme is chosen. This choice is captured in the indexing guidelines as early as possible so that we may ensure that our indexing vendors have the necessary skill sets available to them as they process these journals. Still, it is not unusual for JSTOR to field questions from the indexing vendors who wish to ensure that they are employing Unicode standards and transliteration schemes in a manner consistent with JSTOR production standards. If JSTOR is unable to answer these questions with

<sup>1</sup> From the Unicode website:  
<http://www.unicode.org/standard/WhatIsUnicode.html>

in-house staff, we then turn to a variety of knowledgeable and helpful experts in the University of Michigan and Princeton University communities, where JSTOR's Production units are located.

### *Unexpected Outcomes: The Case of Alif*

JSTOR's attention to detail also extends to our quality assurance checks on the post-digitization data that is returned from our indexing vendors. In cases where significant content has been identified in languages where we do not have in-house expertise, JSTOR hires consulting staff to review and revise both the Unicode encoding and the accompanying transliterations. In some cases, these reviews reveal unexpected challenges which then need to be addressed. This was the case for *Alif: Journal of Comparative Poetics*, a title in the Language & Literature Collection that contains many articles in Arabic. The review of *Alif* showed that abstracts primarily in Arabic (a script reading from right to left), contained discrete words in English or French (languages whose orthographic systems read from left to right). This presented some logical difficulties for web browsers trying to decipher in which direction the text should be presented and read. Consequently, lines of text were being displayed out of order. A study of the Unicode standard yielded a solution in the form of "bidirectional" tags, which could be inserted into the metadata in order to force the text to display correctly.

Still, in other cases, the use of Unicode may not be practical or appropriate. As we prepare for the upcoming Music Collection, for example, we have learned that

Unicode cannot be used to display more sophisticated musical notations where various pitches are represented. In such cases, a standing team of staff representing the various units of the JSTOR organization considers the particular challenge at hand and recommends a strategy for research and resolution.

Individual team members follow up with their units and with external contacts until a satisfactory resolution is identified and adopted.

As the JSTOR archive grows and as the content in the archive becomes more complex, we will continue to strive to ensure that participants have an accessible product that is faithful to the original publication. No doubt, new and more difficult production challenges will arise as new collections are added and new disciplines included. However, we welcome those challenges in the anticipation that their resolution will yield a better resource for the libraries and scholars that have come to rely on the JSTOR archive.

For more information on character display within JSTOR, go the JSTOR website at <http://www.jstor.org/help/generic.html#character>, or email [jstor-info@umich.edu](mailto:jstor-info@umich.edu).



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#### JSTOR FACTS

January 1, 2003–February 25, 2003

Total accesses.....	17,636,485
Searches performed.....	4,047,781
Articles printed.....	2,224,518
Pages viewed.....	7,771,469
Total issues available.....	83,296
Total full-length articles available.....	886,356
Total articles.....	2,053,661
Total pages currently available.....	12,330,049
Number of participating institutions.....	1,572
Number of countries with participants.....	71
Number of participating journals.....	384
Number of journals available online.....	322
Number of participating publishers.....	184

#### COMMENTS

I would just like to tell you that JSTOR is a huge success among our faculty and students. It is by far the most used electronic collection, which is because the user interface is superior to all other electronic periodicals on the market.

*Dr. Pål H. Bakka*  
Senior Academic Librarian  
University of Bergen  
Bergen, Norway

I am a student with a severe learning disability and I use Kurzweil to read essays and articles. Thank you so much for providing a download function which works with Kurzweil. It is a HUGE time saver. Without this option, I would have to print out articles from JSTOR at school, go home and scan them. Only then would I be able to use them. (My disabilities cause me to have to do a lot of extra scanning and background work before I can do my schoolwork.) Your download function not only saves me time, it makes me equal to other students who are not disabled who can read articles right off the screen. Once again, THANK YOU VERY MUCH!

*Kristen O'Hare, Nipissing University*  
North Bay, Ontario, Canada

I have immediately received a welcome message—and now all three new collections are available! I was really amazed to look through this long, long list of journals and spent about two hours exploring the new high-quality content we now have access to. I am happy, as, I hope, our patrons will be. As we now have four collections instead of one, we shall use JSTOR with quadruple energy!

*Vladimir Pislakov*  
Head of Information Systems &  
Electronic Resources Department  
Higher School of Economics  
Moscow, Russia

The response to JSTOR at Burroughs has been fantastic. We are currently in the heat of term paper "season" and students are making heavy use of it. The teachers are quite pleased as well; I've received some of the most positive responses ever from the faculty. So we're quite happy.

*Linda Mercer, Library Chair*  
John Burroughs School  
St. Louis, Missouri

The enthusiastic anticipation among many faculty members at the prospect of having access to the JSTOR collections is amazing. No other database has elicited such a positive response.

*Jim Kemp, Upper School Librarian*  
Poly Prep  
Brooklyn, New York