

JSTOR AND THE JOINT INFORMATION SYSTEMS COMMITTEE: AN INTERNATIONAL COLLABORATION

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Information stored digitally provides fast, cost-effective and comprehensive access to journal articles past and present.

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On March 25, 1998, librarians, scholars, publishers and official representatives of the governments of the United States and the United Kingdom gathered at the American Embassy in London to celebrate the launch of an important joint initiative between JSTOR and the Joint Information Systems Committee (JISC)¹. JSTOR, a not-for-profit organisation based in the United States, is dedicated to helping the scholarly community take advantage of advances in information technologies. The JSTOR database, which now includes more than two million pages from 47 research journals in 11 fields, offers searchable access to materials reaching as far back as 1884 (see appended list of current and future JSTOR journals). Users can retrieve articles from the database by submitting full-text searches by word or phrase, or by typing in the author, title or keyword. Articles are delivered to the user in the form of page images, which ensures that all information is presented as it was originally published, with figures, tables and special characters intact. Articles can be printed from standard printers at up to 600 dots-per-inch resolution, yielding output that is in most cases superior to what could be attained by making a photocopy from the original. All of this can be done by scholars working from networked computers without ever having to leave their desks.

The first objective of the JISC/JSTOR collaboration is to establish a mirror site of the JSTOR database at the University of Manchester, which will enable high quality access to this important scholarly resource for the U.K. higher education community. In addition to creating the JSTOR mirror site, it is hoped that by working closely together the JISC and JSTOR will identify opportunities for further co-operation that will benefit the scholarly communities on both sides of the Atlantic. The impact of technological change on the academic enterprise is substantial, its pace is rapid, and its reach is global. The co-operation of organizations with similar goals and objectives, like the JISC and JSTOR, will help academic entities derive maximum benefit from the opportunities presented during this dynamic period.

History and background

Although the implications of this new, convenient access to a wealth of information is exciting, it is only one aspect of JSTOR's mission. Originally a project of The Andrew W. Mellon Foundation, JSTOR was initiated to test both the usefulness and economic viability of the digital library. More specifically, Mellon Foundation officers wondered whether it was possible to increase access to little-used materials by converting them to digital media while simultaneously insuring their preservation and saving library shelf space.

One reason older journals offer a compelling test case of the future digital library is that they occupy large amounts of shelf space in academic libraries, representing a real and on-going cost to the system. Recent developments in information and networking technology now make it possible to store information digitally in one or a few sites and distribute it widely, potentially reducing the long-term, system-wide costs associated with duplicative storage and maintenance.

A second reason for focusing on older journal literature is that these materials are relatively little-used in their present paper and microfilm formats and generate little or no revenue for publishers. While it may be that for some fields older research is of considerably less value than more recent published articles, it is certainly not the case for all fields and disciplines. In its present format, some valuable, older research risks being 'lost' because it is difficult to locate and inconvenient to retrieve. Thus, JSTOR offers an unusual opportunity to capitalize on new technologies in a way that benefits all participants in the scholarly communication process. Librarians can reduce their long-term costs while providing enhanced services for their patrons. Publishers can enhance the usefulness of their titles and develop a platform on which to build future electronic publishing initiatives at no cost to themselves. Scholars and students will have renewed access to important - albeit older - literature that had previously not been readily accessible. Approaching the problem with this system-wide perspective is an important component of JSTOR's mission to serve the scholarly community.

Archiving

Although storing materials in digital form offers unprecedented opportunities for distribution and access, it also presents new challenges for long-term preservation and archiving. When compared with paper, the media on which digital information is stored are relatively unstable. Perhaps more importantly, digital information must be interpreted by software before it can be presented in a format that is understandable. Words on paper have the wonderful and simple benefit of being directly discernible by the human eye. Digital bits on electronic media require computer intervention. Because the software programs that perform this interpretation are constantly evolving, systems and data must be migrated to new platforms to ensure long-term availability. There is no ready solution to the challenge posed by this constant evolution. It is simply not possible to develop a technological approach today that will work forever, when the external context is changing. However, because archiving electronic material is central and fundamental to JSTOR's reason for being, all aspects of its strategy, from the selection of technological formats to the way it invests its resources, are oriented towards ensuring that these materials will be accessible in the future².

JSTOR today

After a pilot period, during which several test site libraries used the earliest prototype of the JSTOR system with a small number of journals, it was evident that the concept held great promise. In August 1995 JSTOR was established as an independent organisation separate from the Mellon Foundation³. Progress on building Phase I of the JSTOR database, which is slated to include a minimum of 100 journals before the year 2000, is ahead of schedule and continues at a steady pace. JSTOR has now signed agreements with the publishers of 75 journals in 13 fields. As previously mentioned, there are well over two million pages in the database and new content is being added at an average rate of 100,000 pages per month. In response to the general enthusiasm for the project and repeated requests from librarians to provide more journals, JSTOR production capacity will be expanded significantly

during 1998. It is expected that the JSTOR production rate will be approximately 300,000 pages per month by the end of the year.

JSTOR was first made available to libraries in the United States and Canada on January 1, 1997 and the response during this first year was extraordinary. Even though budgets at libraries remain tight, over 250 libraries have elected to support the project. These libraries represent every type of academic institution, from the large research university to the small liberal arts college. What motivates the libraries to participate? There appear to be a variety of reasons. For some librarians, their reason for participation is to provide increased access to these materials. For others, JSTOR allows them to move journals to off-site storage, freeing up much-needed shelf space. Still others are motivated by JSTOR's commitment to archiving, and have indicated that, in addition to gaining a new scholarly resource, they regard JSTOR participation as a form of research and development on the future of the library in an electronic world.

Usage

Scholars and students at participating institutions are demonstrating their enthusiasm for JSTOR through their use of the resource. Increases in usage since the beginning of the fall 1997 academic year have been dramatic and growth continues unabated. During the fall term, the total number of pages viewed, searches performed and articles printed from the database increased 340 percent. Usage in February 1998 was the most ever and exceeded the previous monthly high by 29 percent. 26,729 articles were downloaded for printing during the month (approximately 1,000 per day) and 89,174 searches were performed.

It is clear that the database is being used not only for research, but for teaching as well. Professors are assigning articles they find in the JSTOR database to their classes and students are making use of the database to research and write papers. Professors report that JSTOR provides historical depth to the materials found by students who are increasingly relying on electronic resources and the Web to find information. In addition, with important journals in a variety of fields available through a single interface and search engine, JSTOR encourages cross-

disciplinary inquiry. Access to this resource is also enabling new forms of research that previously would not have been possible. One noteworthy example is the research of Fred Shapiro, a librarian and Lecturer in Legal Research at Yale University. Using JSTOR, Shapiro reports that he has been able to retrieve occurrences of important terms antedating the earliest evidence for those terms recorded in the *Oxford English Dictionary*.

JISC/JSTOR partnership

JSTOR is proving itself to be an important scholarly resource for academic institutions in the United States and Canada. With the ubiquity of computers, networks, email and the World Wide Web, news about JSTOR is spreading through the scholarly community. JSTOR receives messages on a daily basis from libraries and scholars from all over the world expressing interest in accessing the database. Unfortunately, although networks and computers are abundant worldwide, the availability of bandwidth, particularly on transoceanic links, is not. Because JSTOR delivers articles in the form of page images to ensure fidelity with the original published material, file sizes are relatively large and performance is hampered if bandwidth is limited. Establishing a mirror site can overcome this bandwidth problem, particularly if there is adequate local network infrastructure in place. The work of the JISC in developing a high-speed computer network (JANET and SuperJANET) linking the UK higher education community makes it a natural first partner to make high quality access to JSTOR available beyond North America.

In addition to its role in building and maintaining the UK higher education networking infrastructure, the JISC's commitment to providing a diversified collection of important content further enhances the partnership and its potential. Through the Committee for Electronic Information, the JISC provides a wide range of electronic resources - in different disciplines, formats and types - negotiated on behalf of the higher education community in the UK. UK universities through their libraries are mature acquirers of such materials and the JSTOR coverage offers a real enhancement to the teaching and learning and research support profile both at

an institutional and national level. Strategically, the partnership has the added attraction of a long term archiving commitment and will add significantly to the range and depth of electronic journal coverage available to the UK academic community. The level of co-operation that has been achieved during the process of establishing the JSTOR mirror site has been remarkable and most encouraging. It is hoped that the JISC/JSTOR partnership will lead not only to other collaborative arrangements that will benefit the scholarly community, but that it will also serve as a model for similar agreements in other parts of the world.

Participating Journals

* Currently available JSTOR Content

Economics

- * The American Economic Review
- * Econometrica
- The Economic Journal
- * Journal of Applied Econometrics
- The Journal of Economic Literature
- * The Journal of Economic Perspectives
- * Journal of Industrial Economics
- * The Journal of Political Economy
- * The Quarterly Journal of Economics
- * Review of Economics and Statistics

Mathematics

- * Annals of Mathematics
- * Journal of the American Mathematical Society
- * Mathematics of Computation
- * Proceedings of the American Mathematical Society
- * SIAM Journal on Applied Mathematics
- SIAM Journal on Numerical Analysis
- * SIAM Review
- * Transactions of the American Mathematical Society

Population/Demography

- * Demography
- Family Planning Perspectives
- International Family Planning Perspectives
- * Population and Development Review
- Population: An English Selection
- Population Index
- Population Studies
- * Studies in Family Planning

Philosophy

- * Journal of Philosophy
- Mind
- Nous
- Philosophical Perspectives
- Philosophical Review
- Philosophical Quarterly
- * Philosophy and Phenomenological Research

Finance

- * Journal of Money, Credit and Banking

Literature

- ELH
- MLN
- Shakespeare Quarterly

Political Science

- American Journal of International Law
- * American Journal of Political Science
- * American Political Science Review
- International Organization
- * The Journal of Politics
- Political Science Quarterly
- * Proceedings of the American Political Science Association
- * World Politics

History

- * American Historical Review
- * Journal of American History
- * Journal of Economic History
- * The Journal of Military History
- * The Journal of Modern History
- The Journal of Southern History
- * Renaissance Quarterly
- Reviews in American History
- * Speculum
- * Studies in the Renaissance
- * William and Mary Quarterly

Sociology

- * American Sociological Review
- * Annual Review of Sociology
- * Contemporary Sociology: a Journal of Reviews
- Journal of Health and Social Behavior
- Sociology of Education
- Social Psychology Quarterly

Ecology

- * Annual Review of Ecology and Systematics
- * Ecological Applications
- * Ecological Monographs
- * Ecology

Journal of Animal Ecology
Journal of Ecology

Higher Education

- * Journal of Higher Education

Asian Studies

- * Journal of Asian Studies
The China Journal

Anthropology

Annual Review of Anthropology
Anthropology Today
The Journal of the Royal Anthropological
Institute/Man
Proceedings of the Royal Anthropological
Institute

References

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2. For a more detailed discussion of archiving issues, see Margit A. E. Dementi, 'Access and Archiving as a New Paradigm', *The Journal of Electronic Publishing*, March 1998 at <http://www.press.umich.edu:80/jep/03-03/dementi.html>
3. For a more detailed description of JSTOR's transition from research project to independent organisation, see 'JSTOR: From Project to Independent Organization', Kevin M. Guthrie, *D-Lib Magazine*, July/August 1997 at <http://www.dlib.org/dlib/july97/07guthrie.html>

City of Westminster

Applications are invited from Subscription Service Agencies for the supply of periodicals, journals and magazines, who wish to be included in a shortlist of tenderers. Current expenditure is estimated at £100,000 over a three-year period.

Companies who can provide the above service within the area served by the City of Westminster should submit an application which is to include:

1. Details of similar contracts, their type, scope and duration
2. Details of company profile and management structure
3. Copies of audited accounts for the last three years
4. Details of three referees who regularly use your organisation for a similar contract
5. Details of computerised systems (including year 2000 compliance)

A shortlist of companies to be invited to tender will be compiled from this information. Companies failing to provide the relevant details are likely to be excluded from the shortlist.

Completed applications should be sent to:

Westminster City Council
Rentokil Initial Management Services Ltd
City Hall, 5th floor
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For the attention of Maria Roberts

To be received no later than 24 June 1998