From Print to Cyberspace:
The Trend toward Electronic Journals
Presentation and Access Issues
in a Medium-Sized Academic Institution

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*Il y a trois cents ans, la stabilité était la règle et le changement l'exception;
aujourd'hui, le changement est devenu la règle, et la stabilité l'exception.*
                                                                    -- Anonyme[1]

Back to the Future : An Introduction

With the ongoing proliferation of new and evolving networking technologies,
scholarly communication is in a process of profound transformation – what many are
calling – perhaps for dramatic effect in this last year of the millennium – the "dawning of
a new era." That which hardly seemed possible little more than ten years ago – scholarly
collaboration on the Internet, for rapid and timely exchanges of information among
colleagues in different parts of the world – is now commonplace reality. New methods of
communication have given rise to new forms of publication. Electronic mail and web
sites comprise everything from regional news and gossip, to tentative thoughts about
research projects, to formal, peer-reviewed journals. In the realm of the Internet, all of
these elements contribute, in one form or another, to the flow of scholarly
communication, research and knowledge. Some of them might even be considered
"serial" in nature. However, it is the latter – scholarly electronic journals in the
networked environment and in relation to libraries – which are the focus of this paper.

Although e-journals are a relatively recent phenomenon, they are not new. For
nearly ten years, libraries in North America have been addressing issues associated with
providing access to a growing body of e-journal literature. In 1991, the Association of
Research Libraries (ARL) published its first edition of the *Directory of Electronic
Journals, Newsletters and Academic Discussion Lists*, which listed 110 titles. Ann
Okerson, then Director of ARL's Office of Scholarly & Academic Publishing, predicted
that in the next five years electronic journals would increase, causing "bibliographic
confusion and chaos for utilities and libraries."[2] Her assessment was correct. In 1994,
ARL published SPEC (Systems and Procedures Exchange Center) Kits 201 and 202 to
report various ARL member libraries' experiences with e-journals. During this same
year, the ARL *Directory of Electronic Journals, Newsletters and Academic Discussion*

Lists was in its 4th edition, listing 440 electronic serials – a 350% growth rate since the first edition.[3]

The proliferation of e-journals continues to be phenomenal. The latest edition of *Ulrich's International Periodicals Directory* (37th ed. 1999) reports that, of the more than 157,000 serials listed, 10,332 are available exclusively online or in addition to a paper counterpart.[4]

The current market for e-journals and related services has exploded. As increasing numbers of print serials – including many traditional core titles and a growing range of government documents – "go electronic," some cease print publication altogether. Electronic journals are now widely recognized as a vital link in the scholarly communications chain. As a result, libraries are compelled to find the means to incorporate them into the resources they offer to support the research and curriculum needs of their communities of users.

Indeed, if we go back 300 years, the origins of the printed journal can be traced to two core titles that began publication in 1665: *Le Journal des Sçavans* (later published as *Le Journal des Savants*) and the *Philosophical Transactions of the Royal Society of London*.[5] Both are still published today. As of this writing, I was unable to confirm an electronic version for le *Journal des Savants*, however *Philosophical Transactions* is now available electronically.[6] Thus, we see a clear example of the venerable old model for the print journal reshaping itself in the electronic realm.

The University of Vermont Task Force on Electronic Journals

Given the phenomenal growth rate of electronic journals and their potential for furthering the research mission of the institution, the University of Vermont Libraries formed an Electronic Journals Task Force in February of 1998. The Task Force was charged with:

1. Assembling a collection of electronic journals
2. Making the collection available to library users
3. Gathering feedback on use and level of acceptance

Task Force members agreed that content should be the most important criterion for e-journal selection, but that we could not ignore software and hardware requirements, ability to establish links between indexes and journals, licensing and legal restrictions, pricing, and the ability to track use. The Task Force had originally hoped to select e-journals based on titles found on the departmental (or subject-based) journal lists maintained by the Collection Development librarians. The following difficulties, however, made this task impossible:

- Lack of availability of many titles in electronic format.
- Vendors' bundling of e-journals and an inability to subscribe to individual titles.
- Prohibitive pricing models for some packages (budget restrictions).
- Overly restrictive licensing agreements demanding that we sign away fair use rights and assume responsibility for copyright infringement by our patrons.[7]

After much deliberation, the Task Force determined that, rather than focusing on assembling a collection of electronic journals that resembles a subset of our printed collection, we would examine the current market for e-journal offerings broadly suited to the Libraries' mission for support of its academic programs. What did we find?

Overview of E-Journal Offerings: The Current Market

As the great French playwright, Pierre Corneille, wrote in the 17th century, "Le temps est un grand maître, il règle bien des choses."[8] The current market characterizes our choices. It offers an abundance of choice, much experimentation and few standards. The players include:

- Publishers (commercial and non commercial)
- Aggregators and Subscription Agents
- Groups & Individuals (noncommercial providers)

A brief overview, including selected examples from each of these categories, is included in the three tables that comprise Appendix A of this paper (actually the print out of a web site that was developed to explore the range of market offerings).

In the **Publishers** category, we are seeing more and more commercial ventures from well-known publishers such as Elsevier Science, Kluwer, Academic Press, and Springer-Verlag. Scholarly societies, such as SIAM (the Society for Industrial and Applied Mathematics) and the Royal Society (publishers of *Philosophical Transactions*) are also making their publications available online. Project Muse, from Johns Hopkins University Press, and HighWire Press, from Stanford University, are noteworthy for their respective collections in the humanities and medical sciences, and for the close collaborative relationships they have with their university libraries.

Third Party Aggregators are services that provide access to numerous e-journals from a variety of publishers. They include JSTOR, a non-profit organization that offers extensive back files to more than 100 core academic journals, and OCLC Electronic Collections Online, which offers full-text access to more than 2,000 titles via their FirstSearch service. Other aggregators, such as Lexis-Nexis or Bell & Howell (formerly UMI), offer searchable indexes with links to full-text journal sources. Growing numbers

of subscription agents are also working with publishers to provide aggregated services to packages of titles or to searchable full-text databases.

The third category, **Noncommercial Web Sites**, consists of collections of e-journals compiled by various groups and individuals. Several are dedicated to providing access to titles that are offered free of charge on the Internet. They include the CIC Electronic Journals Collection[9] and la Bibliothèque Virtuelle de Périodiques[10]. Others, notably libraries, provide general "E-Journal" listings, which include titles that are offered free of charge, as well as increasing numbers of fee-based titles. For these latter, licensing restrictions and passwords limit access to users within a particular community served by the administrators of the site.

Selection of E-Journals

The Task Force discussed and investigated choices from all of these options and decided to develop a pilot project based on four e-journal packages: HighWire Press, Project Muse, SIAM Journals Online, and Springer-Verlag Online Journals. Titles from JSTOR and MCB University Press were subsequently added. In total, some 200 titles were chosen.

While our choices were made to comprise well-established titles, across a respectable range of subject areas, it is necessary to admit that economics and opportunity were also driving factors. Evidently, publishers are as interested as libraries in testing the market for their electronic publications. Springer-Verlag, SIAM, and MCB University Press offered their complete list of e-journal titles, without charge, on a trial basis for ongoing subscriptions to their print titles. Finally what we obtained was a means of enhanced access to our journal collections, including:

1. electronic access to titles that we continue to receive in print,
2. electronic access to new titles that we did not previously have in print format,
3. "renewed" access to electronic versions of titles that had previously been received in print, but had been cancelled some years back, due to journal inflation and budget limitations.

E-Journals in Aggregator Databases

Ultimately, the Task Force chose to focus on e-journals as unique and distinct entities that could be treated as such in our public catalog and web databases. However, we also briefly explored the question of what to do about full-text e-journals that are linked to citation sources in aggregator databases. The Libraries subscribe to several such services – including Lexis-Nexis, ABI/Inform, Repère Fulltext, and others. We discussed possibilities for alerting users to full-text journals in these sources and concluded that, since title content fluctuates regularly, and often without notice, providing records for titles and linking them to the aggregator database would be a

difficult task to undertake and maintain in-house. We inquired about availability of MARC records from vendors but, as of this writing, none are providing this service.

At the national level, CONSER and the Program for Cooperative Cataloging have recently formed a Task Group on Journals in Aggregator Databases. They are examining ways in which libraries and vendors might work together to develop "a useful, cost-effective and timely means for providing records to identify full-text electronic journals acquired in aggregator databases."[11] Test initiatives are underway[12] and may provide useful solutions for libraries looking for a systematic means of access to full-text journals contained in aggregator databases.

Access Issues: Catalogs & Web Sites

While e-journal choices were being considered, the Task Force also explored models for providing access to the titles we would be acquiring. We reviewed web sites, catalogs and reports at Vanderbilt University[13], Harvard University[14], the University at Buffalo[15], the University of Pennsylvania[16] and the Research Library at Los Alamos National Laboratory (LANL)[17]. Finally, we arrived at two choices: access from the catalog or the web. What are some advantages and disadvantages of each method?

- Web access, via an alphabetical listing and/or subject index of all titles offers a quick and simple means of inventory and direct hypertext links to full-text sources. It is particularly useful for institutions that have not implemented web-based catalogs and cannot offer hypertext links from a catalog record. On the other hand, access to e-journals is separate from the online catalog and other journals that are part of the library's collection.

- The Libraries' Online Public Access Catalog (OPAC) allows for integration with other [print] journals in the collection. Web-based catalogs can enable users to connect directly to the full-text source via hypertext links in the catalog record.

- A combination of access via the Libraries' online catalog and web pages combines the best of both worlds in multiple forms of access. The principle disadvantage is that it may require two separate workflows for personnel who handle web site maintenance and those doing catalog maintenance.[18]

The Task Force decided use "the best of both worlds" approach by providing access from the Libraries' OPAC (Online Public Access Catalog) and from "Sage," the UVM Libraries Web Information Gateway (see Appendix B-1). Sage had already been equipped with Inmagic software – a web-based database management program implemented to manage the growing number of electronic resources acquired by the Libraries. Task Force members determined that brief record entries for electronic

journals should be added to Sage's "Index to Selected Electronic Resources." This would permit users to search and access e-journals by title, subject, and keyword (see Appendix B-2 and B-3). A series of help screens advise users about search capabilities and structure of the database. Items marked by a green bullet are available to all and those marked by a red bullet are restricted to UVM affiliates (see Appendix B-4). The software also enables the creation of an alphabetical listing of "UVM Libraries Electronic Journal Holdings"(see Appendix B-5). A link to both the Index and the list of Electronic Journal Holdings can be found on the introductory Sage menu (see Appendix B-1).

The Task Force also determined that individual titles should be cataloged in the central Online Public Access Catalog (OPAC). The Libraries had recently implemented a web version of its NOTIS online catalog and were also in the process of preparing for migration to a new system, the Voyager online catalog. Inclusion of an 856 field, with a URL (Uniform Resource Locator) to the publisher's Internet address in the bibliographic record would thus produce an active link from the catalog record to the full-text journal in either the NOTIS or Voyager version of our OPAC.

Cataloging guidelines were developed based on the *CONSER Cataloging Manual, Module 31, Remote Access Computer File Serials*.[19] We chose to use a "single record" approach. That is, rather than creating a separate bibliographic record for the e-journal, we updated existing records for print journals, when we had them, to note the existence of an electronic version and to give the URL for accessing it. To do this we simply added:

- a 530 note, to designate the other physical format:

```
530 __ $a Online version available via the World Wide Web …
```

- and an 856 field to give the Internet location:

```
856 41  $u http://epubs.siam.org/sam-bin/dbq/toqlist/SINUM
```

(See Appendix C-1 for example of a full MARC record, and Appendix C-2 for the Voyager OPAC display of the same record)

In instances where the Libraries did not have print versions of the e-journal, we downloaded OCLC records for the electronic version. Our next dilemma became the question of what "location" to assign the journals. Rather than establishing a "virtual" location for "electronic resources" or an equivalent term in our catalog, we chose to refer users to the Bailey/Howe Periodicals Department. In place of shelving information or a call number, we input the phrase "Electronic Journal." (See Appendix C-3 for example of OPAC display) The Periodicals Department provides staffing and workstations to aid users successfully access journals in both print and electronic formats.

E-Journal Use & User Reactions

Early in its deliberations, the Task Force identified three areas to investigate through a study of library users:

1. Will library users accept e-journals as a substitute for print?
2. What factors are important in determining e-journal use and acceptance?
3. Do these factors vary by discipline?[20]

As soon as e-journal records were established in the OPAC and in Sage, Task Force members began introducing these new resources to library staff. After staff had time to familiarize themselves with the titles, they were asked to fill out an evaluation form which rated each of the packages in five general performance categories:

1. Ability to access journals through Sage and/or the online catalog
2. Navigational capabilities (including search and browse options)
3. Viewing and output (ability to download, email, print, etc.)
4. Content and coverage
5. Interface (including speed of access, aesthetics and clarity of presentation).

(See Appendix D for three page survey form)

This preliminary survey showed that user reactions to e-journals varied significantly. All were able to access records for the titles through the OPAC or through Sage. While most found the prospect of full-text access from the computer desktop to be exciting and full of promise, experiences in being able to access full-text sources varied. Some users did not have adequate computing capabilities to retrieve the full-text source from their desktops. For example, some users did not have Adobe Acrobat software and could not retrieve journals available in PDF format. Others reported slow response time (perhaps attributable to Internet traffic or to slower processing units on their workstations). One user reported that the publisher's server failed while she was viewing a title. Comments about navigational capabilities, view screens and ability for output varied across all the publishers' packages, as well as for individual e-journals. While many users liked the range of navigational features for searching and retrieving text, others found them to be confusing, limited, or not well-defined, often lacking adequate help screens. Others noted differences in presentation, format and "added value" among different publishers; that there is lack of a common look or interface. While there was a general sense of interest and enthusiasm, most all respondents conveyed that much of what they saw and experienced was very inconsistent.

In December 1998, Task Force members issued a press release in the campus media to publicize the Libraries' acquisition of electronic journals. Library staff have begun to initiate, broader educational training opportunities through training, workshops and bibliographic instruction, to teach faculty and students how to access and navigate e-

journals that are available to them across various disciplines. Ongoing dialogue and interaction between librarians and faculty is planned so that feedback can be solicited about e-journal use in relation to curriculum and research needs on campus.

The Systems Department has been able to track e-journal usage from Sage with statistical software that logs the number times each link is accessed or "hit" by users. The following statistics were logged for the fall quarter (September though December) of 1998:

Project Muse Journal list	134 hits
SIAM Journals Online list	34 hits
Springer-Verlag Online Journals list	74 hits
HighWire Press list	61 hits
Electronic Journal Holdings (alphabetical list)	86 hits
Index to Selected Electronic Resources (e-journals, et al.)	2,003 hits

Statistics in this table represent only a portion of overall use. They do not include hits on individual titles accessed from Sage or from the Libraries' online catalog.

Project Muse provides a more detailed statistical analysis of UVM user activity for their e-journals for the first quarter of 1999 (January through March). These statistics indicate a healthy level of use and interest for this particular service in showing an average number of twelve requests per day and a total of 1,063 overall requests for articles, images, table of contents, and other information (see Appendix E)

Outstanding Issues & Looking Ahead to the Future

J'ai beaucoup mieux à faire que de m'inquiéter de l'avenir: J'ai à le préparer.
-- Félix-Antoine Savard[21]

This paper has attempted to overview the current climate, the current market, and various issues and concerns that we are facing in developing the necessary tools and skills to evaluate e-journals in relation to the research and curriculum needs of our faculty and students. There's a wealth of other issues – such as licensing considerations, pricing models, consortial arrangements – that this paper does not address. New technologies are evolving at an incredibly swift pace; the market is changing almost daily and there are several movements in place that can shape any number of possible outcomes. As this millennium draws to a close, librarians are positioning themselves as active players in helping to shape and determine the future. Some examples important initiatives taking place today include:

- Consideration of fundamental revisions to current AACR2 cataloguing codes, including the definition of what a serial is. The serials and cataloging communities are moving to address changes brought on by the digitalization of resources in the networked environment and the ways in which catalog codes and practices may evolve to accommodate the transformation.[22,23]

- Metadata solutions such as the Dublin Core or Text Encoding Initiative (TEI) are evolving to facilitate the discovery of electronic resources. Originally conceived for author-generated description of electronic documents, these metadata elements are attracting the attention of formal resource description communities – such as museums and libraries – who are experimenting with their use by mapping common elements in electronic resources to generate records for catalogs and databases. As metadata standards evolve, more refined search systems will be realized to take advantage of new search and retrieval possibilities across many different systems and platforms.

- ARL initiatives including SPARC (the Scholarly Publishing and Academic Resources Coalition) and NEAR, the proposal that calls for a National Electronic Article Repository. SPARC is working to forge new partnerships between libraries and publishers who are committed to developing high-quality, economical alternatives to existing high-price publications.[24] NEAR proposes the development of a publicly accessible national repository for scholarly articles published by authors in the United States.[25]

As American astronomer, Carl Sagan, wrote, "Somewhere, something incredible is waiting to be known." Librarians and information specialists have always done well at making sense of variables – massive amounts of information in a variety of formats, databases and catalogs – to aid our users in the discovery of what is waiting to be known. Our initial experience at the University of Vermont is teaching us that e-journals are just one more variable, another tool to learn and adapt to in aiding us with our mission to further the quest for knowledge.

And so the future unfolds. We will continue to look around and to use our wits, our resources, and the new tools that are available to reap the benefits of what the world of information – and the future – hold in store and have to offer.

Acknowledgements

the many intricacies and challenges in working with serials and understanding their role in the scholarly information chain. Special thanks to Martin Gordon at Franklin & Marshall College in Lancaster, Pennsylvania, and to the NASIG Continuing Education Committee for their encouragement and willingness to support this research as part of NASIG's continuing educational outreach effort.

Notes

1. Adapted from a citation suggested by Denise Bernier in le "Petit musée de la pensée du jour." A collection of citations posted from Feb. 15, 1995 to Feb. 15, 1999. Citation no 393-1997.01.07 Mardi. WWW Document, accessed Apr. 18, 1999 : http://www.sit.ulaval.ca/pagespersonnelles/phf/collection.html

2. Ann Okerson at the OCLC Users' Council Meeting, Feb. 1991; quoted in SPEC Flyer 201 for the publication, *Electronic Journals in ARL Libraries: Policies & Procedures* by Elizabeth Parang and Laverna Saunders. Washington, DC: Association of Research Libraries, Aug. 1994. Also available as a WWW Document, accessed Apr. 19, 1999 : http://arl.cni.org/spec/201fly.html

3. SPEC Flyer 202, for the publication, *Electronic Journals in ARL Libraries: Issues & Trends* by Elizabeth Parang and Laverna Saunders. Washington, DC: Association of Research Libraries, Aug. 1994. Also available as a WWW Document, accessed Apr. 19, 1999 : http://arl.cni.org/spec/202fly.html

4. *Ulrich's International Periodicals Directory, 1999 : Including Irregular Serials & Annuals.* 37th ed. (1999). New Providence, NJ: R.R. Bowker, c1998. p.vii.

5. There are several sources that cite the 17th century and le *Journal des sçavans* and *Philosophical Transactions* as the starting points for printed journals as we know them today. These titles were among the first to publish scholarly research in a manner intended to appeal to a broad reading public. See Jim Parrott in "Scholarly Societies as Meeting Sponsors and Publishers," University of Waterloo Electronic Library Scholarly Societies Project (March 1996), a WWW Document, accessed Apr. 16, 1999 : http://www.lib.uwaterloo.ca/society/meetings_publishers.html. For historical perspective on the role scholarly societies played in developing journals as a means of communicating research, Parrott recommends: Martha Ornstein, *The Rôle of Scientific Societies in the Seventeenth Century.* Chicago: University of Chicago Press, 1928.

6. Publications page of the Royal Society. WWW Document accessed April 24, 1999 : http://www.pubs.royalsoc.ac.uk/

7. Trina Magi. "Progress Report of the Electronic Journals Task Force," an internal report prepared for the University of Vermont Libraries. Sept. 1, 1998.

8. Pierre Corneille, 1606-1684, in *Sertorius*, II, iv.

9. The CIC E-Journals Collection (Committee for Institutional Cooperation), is managed by the consortium known as the "Big 10" research libraries in the Midwest region of the U.S. They systematically catalog and archive freely accessible Internet titles that collection specialists have chosen as relevant to their academic community. WWW Document, accessed Apr. 28, 1999 : http://ejournals.cic.net/

10. La Bibliothèque Virtuelle de Périodiques, a collaborative project between librarians and documentalistes in France and Québec, offers a directory of freely accessible, scholarly French-language periodicals, that includes a search engine and subject listing arranged by Dewey classification category. WWW Document, accessed Apr. 27, 1999 : http://biblio.ntic.org/biblio/

11. Program for Cooperative Cataloging. "Task Group on Journals in Aggregator Databases." Charge and time frame. WWW Document accessed Apr. 30, 1999 : http://lcweb.loc.gov/catdir/pcc/aggregatortg.html

12. John Riemer reported test initiatives at the University of Tennessee and the University of Illinois, Chicago in an e-mail message to the AGGREGATOR-L discussion list (Mar. 19, 1999). E-mail message forwarded from John Riemer to Birdie MacLennan, Mar. 24, 1999.

13. Vanderbilt University. Jean and Alexander Heard Library. "Report of the Joint Subcommittee on Access to Electronic Serials and Databases." Dec. 1997. WWW Document, accessed Apr. 28, 1999 : http://library.vanderbilt.edu/eserials/eserrpt.htm

14. Harvard University. "Cataloging Networked Resources in HOLLIS: Policies and Guidelines." Rev. May 1, 1996. WWW Document, accessed Apr. 28, 1999 : http://elmer.harvard.edu/~robin/catlg_e_stuff.html

15. University at Buffalo, University Libraries. "Electronic Journals in the UB Catalog and on the Libraries' Web Site: General Statement of Policy." September 1996. WWW Document, accessed Apr. 28, 1999 : http://ublib.buffalo.edu/libraries/units/cts/policies/ejrnl.html

16. The University of Pennsylvania provides alphabetical and subject access to Electronic Journals via their web site at: http://www.library.upenn.edu/resources/ej/ej.html, as well as through their online public catalog: http://www.franklin.library.upenn.edu/

17. Frances L. Knudson, et al. from the Los Alamos National Laboratory Research Library. "Creating Electronic Journal Web Pages from OPAC Records" *Issues in*

Science and Technology Librarianship no.15 (Summer 1997). WWW Document, accessed Apr. 28, 1999 : http://www.library.ucsb.edu/istl/97-summer/article2.html

18. Staff at the Los Alamos National Laboratory Research Library have successfully implemented an automated means of generating e-journal web pages from MARC records. (Op. cit., see note 17)

19. *CONSER Cataloging Manual, Module 31, Remote Access Computer File Serials.* Washington, DC: Library of Congress, Cataloging Distribution Service. Module 31 rev. June 30, 1998. Also available as a WWW Document, accessed Apr. 29, 1999 : http://lcweb.loc.gov/acq/conser/module31.html

20. Trina Magi. "Progress Report of the Electronic Journals Task Force," an internal report prepared for the University of Vermont Libraries. Sept. 1, 1998.

21. Félix-Antoine Savard, 1896-1982, prélat, professeur, romancier et poète québécois. Cited by Doris Lussier in *Philosofolies*, éd. Stanké, 1990, p.147.

22. See Conference Papers from the International Conference on the Principles and Future Development of *AACR* [*Anglo-American Cataloguing Rules*]. Toronto, Canada, October 23-25, 1997. WWW Document, accessed Apr. 29, 1999 : http://www.nlc-bnc.ca/jsc/confpap.htm (papers are available in PDF format)

23. Yves Desrichard. "Les formats et normes de catalogage : évolutions et perspectives," *Bulletin des Bibliothèques de France*, 98-3: 56-65. WWW Document accessed Apr. 12, 1999 : http://www.enssib.fr/Enssib/bbf/bbf-98-3/11-DESRICHARD.pdf

24. Richard Johnson. "SPARC Whitepaper," (the Scholarly Publishing and Academic Resources Coalition). WWW Document, accessed Apr. 22, 1999 : http://arl.cni.org/sparc/whitepaper.html

25. See David E. Shulenburger, "Moving With Dispatch to Resolve the Scholarly Communication Crisis: From Here to NEAR" [National Electronic Article Repository]. *Association of Research Libraries (ARL) Membership Meeting Proceedings*. Oct. 1998. WWW Document accessed Apr. 12, 1999 : http://www.arl.org/proceedings/133/shulenburger.html

List of Appendixes

Electronic Journals: Overview of the Current Market (1999)
a web version of this document, with hypertext links to named sources, is available at
http://www.uvm.edu/~bmaclenn/CAIS99/ej-market.htm

Characterized by an abundance of experimentation and few standards, the current market includes commercial and non-commercial offerings from a wide-range of publishers, aggregators, groups and individuals.

Some Examples:
(these sources are adapted from an article by George Machovec, "Electronic Journal Market Overview--1997", *Serials Review* 23, no. 2 (Summer 1997):31-44, or click on the sources that are listed below for additional details)

Publishers (from commercial, university, and scholarly society sectors):			
Academic Press IDEAL	Elsevier Science	Kluwer Online	Springer-Verlag Link service
HighWire Press	Project Muse	Royal Society Publications	SIAM (Society for Industrial and Applied Mathematics) Journals Online

Third Party Aggregators & Subscription Agents:			
Backwell's Electronic Journal Navigator	EBSCO Online	FAXON E-Journal Services	Institute for Scientific Information
The JSTOR Project	LEXIS/NEXIS	OCLC Electronic Collections Online	Ovid Technologies, Inc.
SwetsNet		Bell & Howell (formerly UMI - University Microfilms International)	

Noncommercial Web Sites Offering Access to E-Journals: (free, though restrictions may apply at some sites)			
ARL Directory of Electronic Journals and Newsletters	Australian Journals (National Library of Australia)	Bibliothèque Virtuelle de Périodiques (projet franco-québécois)	Canadian Electronic Scholarly Network / Réseau canadien d'information savante
The CIC E-Journals Collection	E-Journal (WWW Virtual Library e-journal listing)	Les Journaux sur le web, a Swiss source for newpapers and magazines from around the world.	Library of Congress Lists of Newspapers and Periodicals
NewJour: Electronic Journals and Newsletters	Serials inCyberspace includes websites with e-journal collections.	University at Buffalo Libraries Electronic Journals	University of Pennsylvania Library Electronic Journal Listings

This web page is developed & maintained by Birdie MacLennan; it is hosted by the University of Vermont at http://www.uvm.edu/~bmaclenn/CAIS99/ej-market.htm. Last update: May 3, 1999.

Appendix B-1

Sage: The UVM Libraries
Information Gateway

General Reference	LUIS the UVM Libraries catalog.	UVM & State Resources
Arts	Index to Selected Electronic Resources.	Humanities
Business, Law & Public Affairs	Internet Guides & Search Engines	Social Sciences
Biological Sciences & the Environment	UVM Libraries Electronic Journal Holdings.	Physical Sciences
Engineering, Mathematics, & Computer Science	**NEW!** - Preview Voyager, the UVM Libraries new catalog.	Medical & Health Sciences

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UVM Libraries Homepage | Bailey/Howe Library Reserves | Remote Access to Sage

The Bailey/Howe Library's SAGE workstations are intended to further the creation, application and dissemination of knowledge by providing access to information resources. The SAGE workstations are not intended for recreational use. During busy times in the Bailey/Howe Library, when queuing may occur, use is limited at each workstation to 30 minutes per session, and University students, faculty and staff always have priority access.

University of Vermont Sage (web gateway) Opening Menu

Index to Selected Electronic Resources

Title

| | AND ▼ |

Subject

| | AND ▼ |

Keyword

| siam journal | AND ▼ |

| Submit Query | Reset | **Help** |

Sage Search Screen for Index to Electronic Resources

Index to Selected Electronic Resources

FIND ("Subject" / "Description" / "Title" / "Author" / "Other Contributor" /
"Publisher" ct siam journal on numerical)
Items found: 1

● <u>SIAM Journal on Numerical Analysis</u>

Description
research articles on the development and analysis of numerical methods
including their convergence, stability, and error analysis as well as related
results in functional analysis and approximation theory. (Coverage is February
1994+)

Subject
Numerical analysis--Periodicals.
Numerical calculations--Periodicals.

Publisher
SIAM - Society for Industrial and Applied Mathematics

Record was last modified
May 18, 1998 9:40:09

Retrieval software: DB/Text *WebPublisher*, provided by INMAGIC

E-Journal Record Retrieved from Sage Index

Help
Index to Selected Electronic Resources.

Scope

This index is a service of the University of Vermont Libraries and is intended to assist students, faculty and staff in the discovery and retrieval of both publicly accessible resources as well as services licensed by the Libraries for the use of the University Community. The same general selection criteria that are used when purchasing print materials (subject, authority, scope and timeliness) have been used to prepare this database. Individual items are assigned the same Library of Congress Subject headings as are used in LUIS. Individual works may reside on the UVM campus network or on the Internet at large.

Note: Items which are available to all are marked by a ●, those which are restricted to UVM affiliates are marked by a ●.

Help Screen for Sage Index to Electronic Resources

⟶ * green bullet indicates open access, or availability to all
   * red bullet indicates access is restricted to UVM affiliates

UVM Libraries Electronic Journal Holdings

Last updated on 8/24/98

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S |
T | U | V | W | X | Y | Z

• SIAM Journal on Numerical Analysis

Description

research articles on the development and analysis of numerical methods including their convergence, stability, and error analysis as well as related results in functional analysis and approximation theory. (Coverage is February 1994+)

Publisher

SIAM - Society for Industrial and Applied Mathematics

Record was last modified

May 18, 1998 9:40:09

• SIAM Journal on Optimization

Description

Among the areas addressed are linear and quadratic programming, large scale optimization including the solution of large nonlinear systems of equations, stochastic optimization, combinatorial optimization, mixed integer programming, non-smooth optimization, convex analysis, numerical optimization including optimization algorithms for parallel architectures, and applications in engineering, management, and the sciences. (Coverage is February 1994+).

Publisher

SIAM - Society for Industrial and Applied Mathematics

162

Record was last modified

May 18, 1998 9:40:09

MARC Coding for Single Record Approach to Cataloging

Catalog Record for Printed Version updated with 530 note to designate the existence of other physical format and 856 field for URL (Internet address) to electronic versions:

```
000        01503mas 2200337 450
001        334699
008        760107c19649999paubx p 0 aleng d
010 __     |z sf 77000234 |z sc 76000067
012 __     |a 3 |b 3 |c - |d 7 |e n |f - |g p |h - |z d
019 __     |a 02450543
035 __     |a (OCoLC)01914545
035 __     |9 ABL8283BH
040 __     |a COO |c COO |d NSD |d DLC |d OCL |d NSD |d OCL |d NSD |d DLC
|d OCL |d GUA
049 __     |a VTUU
212 0_     |a Society for Industrial and Applied Mathematics journal on
numerical analysis
245 10     |a SIAM journal on numerical analysis.
247 00     |a Journal of the Society for Industrial and Applied
Mathematics. Series B: Numerical analysis, |f 1964-65
260  __    |a [Philadelphia, |b Society for Industrial and Applied
Mathematics]
265 __     |a SIAM, 33 S. 17th St., Philadelphia, PA 19103
300 __     |a v. |b ill. |c 23 cm.
310 __     |a 6 no. a year
362 0_     |a v. 1- 1964-
440 _0     |a SIAM journals online
500 __     |a "A publication of the Society for Industrial and Applied
Mathematics."
```

> → 530 __ |a Online version available via the World Wide Web from SIAM
> Journals Online (current issues) and JSTOR (back issues).

```
710 2_     |a Society for Industrial and Applied Mathematics. |t
Journal. Series B: Numerical analysis.
710 2_     |a Society for Industrial and Applied Mathematics.
710 2_     |a JSTOR (Organization)
```

> → 856 41 |3 Online SIAM version: |u http://epubs.siam.org/sam-
> bin/dbq/toclist/SINUM
> → 856 41 |3 Online JSTOR version: |u
> http://www.jstor.org/journals/00361429.html

Voyager
The University of Vermont Libraries Catalog

| Database | Search | **Headings** | Titles | Library | Cage | Help | Exit |

Database Name: University of Vermont Libraries

Search Request: = siam journal on numerical

Search Results: Displaying 1 of 1 entries

◀ Previous   Next ▶

Brief View ▶ **Long View** More View

SIAM journal on numerical analysis.

Database: No information available

Title: SIAM journal on numerical analysis.

Description: v. ill. 23 cm.
6 no. a year
v. 1- 1964-

Published: [Philadelphia, Society for Industrial and Applied Mathematics]

→ { **Internet** http://epubs.siam.org/sam-bin/dbq/toclist/SINUM
http://www.jstor.org/journals/00361429.html

Frequency: 6 no. a year
v. 1- 1964-

Format: Online version available via the World Wide Web from SIAM
Journals Online (current issues) and JSTOR (back issues).

Series Title: SIAM journals online

Notes: "A publication of the Society for Industrial and Applied Mathematics."

Other Author(s): Society for Industrial and Applied Mathematics.
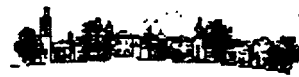Society for Industrial and Applied Mathematics.
JSTOR (Organization)

{ **Location:** Bailey/Howe Periodicals (2nd Floor)
Call Number: Shelved by title

Recent Issues: v.36:no.1(1999:Feb.)
Library Has: v.1 (1964)-v.35 (1998) } *PRINT ISSUES*

5/3/99 9:44

Voyager
The University of Vermont Libraries Catalog

| Database | Search | **Headings** | Titles | Library | Sage | Help | Exit |

Database Name: University of Vermont Libraries

Search Request: = configuration

Search Results: Displaying 1 of 1 entries

| ◀ Previous | Next ▶ |

| Brief View | ▶ **Long View** | More View |

Configurations

Database: No information available

Title: Configurations

Description: Text (electronic journal)
Three times a year
1.1 (winter 1993)-

Published: Baltimore, Md. : Johns Hopkins University Press, c1993-

→ { **Internet** http://muse.jhu.edu/journals/configurations/

Frequency: Three times a year
1.1 (winter 1993)-

Format: Available via the World Wibe Web through Project Muse.

Data Note: Text (electronic journal)

System: Digitized.

Notes: Title from title screen.

Subject(s): Literature and science--Periodicals.
Literature and technology--Periodicals.

Other Author(s): Society for Literature and Science.
Project Muse.

Other Titles: [Configurations (Online)]

→ {
Location: Bailey/Howe Periodicals (2nd Floor)
Call Number: Electronic Journal

165

JOURNAL INFORMATION

SIAM JOURNAL ON NUMERICAL ANALYSIS

(continues Journal of the Society for Industrial and Applied
Mathematics: Series B, Numerical Analysis)

JSTOR coverage: Vols. 3-30, 1966-1993

Search this journal   **Browse this journal**   **Help**

SIAM Journal on Numerical Analysis is just one of the journals
in the JSTOR collection. You may also choose to search or
browse the entire JSTOR Journal Collection.

Please read JSTOR's "Terms and Conditions of Use" before
you begin.

University of Vermont Libraries
Electronic Journals Evaluation

Name: _____

Department: _____

Please use this form to record your impressions as you explore and assess the e-journal collections. For each feature, circle the rating that best describes the e-journal collection's performance. Please bring your completed form to the debriefing session (Sept. 3, 9 a.m., Faculty/Staff Lounge), or return it to Trina Magi. Thanks for your help.

Rating Scale: E=excellent, G=good, F=fair, P=poor, n/o=no opinion.

1. Access

	Project Muse	SIAM	Springer	Comments
Clarity of records representing e-journals in LUIS	E G F P n/o	E G F P n/o	E G F P n/o	
Ease of locating e-journals in SAGE	E G F P n/o	E G F P n/o	E G F P n/o	

Other comments, issues:

2. Search Capability

	Project Muse	SIAM	Springer	Comments
Usefulness of help screens/guides	E G F P n/o	E G F P n/o	E G F P n/o	
Usefulness of search levels (e.g. basic, advanced)	E G F P n/o	E G F P n/o	E G F P n/o	
Adequacy of search functions such as Boolean operators, truncation, field searching, limits, search history	E G F P n/o	E G F P n/o	E G F P n/o	
Adequacy of browsing capability (e.g. viewing tables of contents, browsing a specific issue, viewing indices)	E G F P n/o	E G F P n/o	E G F P n/o	

Other comments, issues:

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	Project Muse	SIAM	Springer	Comments
3. Viewing and Output				
Ease of viewing articles	E G F P n/o	E G F P n/o	E G F P n/o	
Ease of viewing images/graphics	E G F P n/o	E G F P n/o	E G F P n/o	
Ease of printing articles	E G F P n/o	E G F P n/o	E G F P n/o	
Ease of printing images/graphics	E G F P n/o	E G F P n/o	E G F P n/o	
Ease of e-mailing articles	E G F P n/o	E G F P n/o	E G F P n/o	
Ease of downloading articles	E G F P n/o	E G F P n/o	E G F P n/o	
Ease of downloading images/graphics	E G F P n/o	E G F P n/o	E G F P n/o	
Other comments, issues:				
4. Content and Coverage				
Quality of content of e-journal collection	E G F P n/o	E G F P n/o	E G F P n/o	
Adequacy of years of coverage	E G F P n/o	E G F P n/o	E G F P n/o	
Adequacy of update frequency	E G F P n/o	E G F P n/o	E G F P n/o	
Other comments, issues:				

5. Interface

	Project Muse	SIAM	Springer	Comments
Speed of access/processing	E G F P n/o	E G F P n/o	E G F P n/o	
Aesthetics of presentation	E G F P n/o	E G F P n/o	E G F P n/o	
Clarity of presentation and/or options	E G F P n/o	E G F P n/o	E G F P n/o	
Seamlessness of use within the Windows environment	E G F P n/o	E G F P n/o	E G F P n/o	

Other comments, issues:

6. EXTRA CREDIT: Comparison to comparable print resources
Please note the title of the e-journal you evaluated: _____

General evaluation of e-journals vs. print:

Comparison of a specific title in print and electronic form. Note any variations in content, presentation, enhancements in the electronic form (e.g., links to other material, references, etc.):

7. EXTRA CREDIT: Remote Access
Please note the name of the e-journal collection you evaluated: _____

Ability to access e-journals from outside the library:

Other observations:

University of Vermont Project Muse E-Journals
Access Statistics: January – March 1999

ARTICLES: Article Hits -- this is the number of hits to a given
     journal's full text articles. This does not include front
     matter or front pages of the projects, nor does it count
     illustration pages.
IMAGES: Article-Related Graphics -- this is a count of the
     number of hits in a given journal in your domain to
     "meaningful graphics" (logos, buttons, and other graphics
     characteristics of our site design are not included). For some
     journals (such as American Journal of Mathematics), "page
     images" are used because of the complexity of the material;
     for these, an "image" is equivalent to an "article."
OTHER: A combination of Journal Informational Page Hits and hits to
    pages that didn't fit the naming-convention pattern of the other
    three categories. We are striving to pare these down by improving
    the statistics algorithms, restructuring file naming conventions,
    and other means. These are still "meaningful" hits, which may
    include multimedia, active images, pages describing the journal,
    indexing/abstracting information, even editorial boards.
TOCS: Table of Contents Hits -- this count represents the
     number of hits to a given journal's tables of
     contents. Please note that TOCs are volume-level, thus
     each hit represents between 2 and 6 issues.

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Section 482: Access Stats For Vermont, University of

Date Range: Mon 12:49, January 04, 1999 -- Wed 19:57, March 31, 1999

Total Requests:	1063
Average Requests Per Day:	12
Total Bytes Requested:	22913517
Average Bytes Requested Per Day:	265519

Number of Requests

	Articles	Images	Other	TOCs	Total
American Imago	3	2	13	5	23
American Jewish History	8	0	21	6	35
American Journal of Mathematics	1	82	13	6	102
American Journal of Philology	12	0	10	5	27
American Quarterly	9	0	19	5	33
Arethusa	9	20	6	1	36
Bulletin of the History of Medicine	1	4	6	1	12
Callaloo	7	0	5	1	13
Configurations	10	11	11	4	36
Diacritics	12	15	5	4	36
ELH	2	0	11	2	15
Eighteenth-Century Life	2	0	7	0	9
Eighteenth-Century Studies	1	1	7	1	10
Human Rights Quarterly	5	0	10	4	19

Imagine	2	0	2	0	4
Journal of Asian American Studies	1	8	0	0	9
Journal of Democracy	6	0	5	2	13
Journal of Early Christian Studies	2	0	1	0	3
Journal of Modern Greek Studies	1	10	6	2	19
Journal of the History of Ideas	3	0	6	1	10
Kennedy Institute of Ethics Journal	1	0	4	1	6
Late Imperial China	1	0	8	2	11
Literature and Medicine	1	3	1	0	5
MLN	1	0	3	0	4
Milton Quarterly	1	0	1	0	2
Modern Fiction Studies	26	3	4	6	39
Modern Judaism	6	0	4	1	11
Modernism/Modernity	20	9	6	10	45
New Literary History	8	13	1	0	22
Other	6	2	80	0	88
Performing Arts Journal	2	14	6	1	23
Philosophy and Literature	3	0	8	1	12
Philosophy, Psychiatry, and Psychology	1	0	20	4	25
Postmodern Culture	9	7	15	2	33
Review of Higher Education	16	0	24	9	49
Reviews in American History	4	0	8	4	16
SAIS Review	4	0	10	4	18
The Emily Dickinson Journal	1	2	2	1	6
The Henry James Review	11	0	6	7	24
The Lion and the Unicorn	7	33	4	0	44
The Yale Journal of Criticism	1	15	9	1	26
Theatre Journal	0	2	3	0	5
Theatre Topics	0	0	1	0	1
Theory & Event	1	0	5	4	10
Wide Angle	5	44	4	1	54
World Politics	7	2	10	1	20
Total	**240**	**302**	**411**	**110**	**1063**