Scholarly Communications Project: Publishers and Libraries

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Foundations of the Scholarly Communications Project

That libraries seemingly are becoming publishers is, in part, an effort to improve library services. Libraries enhance services by producing and distributing information electronically not only to the local university community, students and faculty, researchers and scholars, but also to the expanding numbers of worldwide users who are anxious to find what they need quickly on the information highway.

Providing access to journals, articles, abstracts, photographic collections, bibliographies, newspapers, and more are among traditional library services. These services, of course, do not seem new or innovative--until one puts them in the context of the Internet and makes them electronically available at no charge to the university community and the electronic village. Then they take on a whole new meaning: electronic journals, timely distribution of current research, digital images (still and motion, with and without audio), references directly linked to their source articles--all available without leaving one's chair. Add to these current services even more electronic resources such as online reserve materials, theses and dissertations, and television news to get a glimpse of the current publishing and experimental activities of the Scholarly Communications Project at the University Libraries, Virginia Polytechnic Institute and State University. The increasing availability of this kind of information online, combined with the rapidly growing number of personal computers and the expanding use of world-wide computer networks, is contributing to the changing nature of library services and academic publishing.

When the Scholarly Communications Project was getting underway in 1989, the founding director, Lon Savage, envisioned a pioneering effort: exploration of new means of scholarly communications and ways to reduce costly distribution of print publications normally done through commercial publishers. Paul Gherman, University Librarian at Virginia Tech when the Project began, felt strongly that such a project belonged in the library; that it would be an opportunity for library staff to get involved in a new publishing medium that increasingly would be integral to the library's mission. Thus, the Project director, who often refers to himself as "an old newspaper man" and who is not a librarian, was very concerned about publishers' interests, while the librarian looked at electronic publishing as a way for libraries to use new technology to keep their services meeting the current information needs of their patrons.

Since the Scholarly Communications Project moved into the library in 1991, the founding director has retired, leaving a flourishing enterprise. The first electronic-only journal has been joined by four print-also journals, abstracts for two additional journals, two research databases, two experimental digital image collections, an experiment in providing access to television news, a regional newspaper, and the university faculty/staff newspaper. Thus, the activities of the Project have placed the library directly into the information provider's role, improving the level of services the library offers. Like the library, the Project provides its services free of charge to editors and publishers, to our university community, and to anyone else who can access our repository of information (ironically called a "server"). It is a collaborative venture that disseminates

information--traditional library material-- beyond the walls of the library and the academy.

Goals of the Scholarly Communications Project

1. Foster the mission of the university by disseminating the products of teaching, research, and public service
2. Promote the advantages of the electronic publishing
3. Make services available to the university community, and as a state institution, to local, regional, and statewide clientele
4. Be a resource for new editors on- and off-campus
5. Encourage new editors to take advantage of unique opportunities available with electronic publishing
6. Address the issues facing print publishers confronted with non-traditional, electronic publishing options
7. Address the strain on physical space available for the growing number of publications to be stored and accessed on-site and in off-site storage facilities, the rising shelving and binding costs, and the decreasing cost of online storage for libraries
8. Explore potential solutions to the increasing cost of information and its impact on the library's materials budget
9. Expand the range of library services

At the Scholarly Communications Project, we have amassed a considerable sum of information and knowledge gained from our experiences and we are very willing, in fact, anxious, to share it with others. We have had our success and our non-successes; we have experience doing things that work well, while we also are experiencing some less than ideal situations. We would like to save others from the pitfalls we have discovered.

Strategies for Achieving the Project's Goals

Strategies that have been implemented for achieving the Project's goals include offering editors a range of electronic publishing options. We do this by making plain text (ASCII) files available as well as by presenting via World Wide Web marked-up text with in- line graphics and links directly to references and citations. These two presentations have become our standard operating procedure since we began manually inserting HTML tags last year. When faced with providing access to a daily newspaper, the technical director immediately wrote the script that automatically inserts the tags. Recently, we have begun to receive already tagged materials; with these we take the opposite tack and strip the tags from a copy for ASCII presentations. This is not yet a trouble-free process which causes some concern for the Project staff. We want to make electronic publishing as easy as possible, especially for our busy faculty who usually serve as editors of scholarly journals while carrying full teaching loads. However, as the list of publications grows, our two person operation may need to require files in certain common or easily translatable formats. By working with our editors to get standardized files from them, and by doing as much automated processing as possible, we believe that we can keep the number of Project staff low, yet provide a high level of service for a large number of publications.

ASCII and marked up text are the most common but not the only display formats we offer. After one year of plain text, the editor of the weekly faculty/staff newspaper, *Virginia Tech Spectrum*, came back to us and asked, "What can you do to make the online version look more like the paper copy?" We prepared for him some bitmapped images (i.e., pictures of the pages) with hypertext links to the text of the articles. One of our other editors took a different approach. The editor of the *Journal of Technology Education* separates the graphics from the articles so that his readers with access to either low end or higher end equipment are all well served.

For both editors, the overwhelming constraint is that the bitmapped images and

PostScript files are not accessible to many of their readers. Also, bitmapped images are not word-searchable. To overcome this, we have linked the ASCII text to the online picture of the page, taking advantage of the best of both formats--content and visual layout.

When editors initially approach the Project, they are interested in giving their readers (usually their paid subscribers) the option of receiving hardcopy or electronic access. They see as quite peripheral exercising the benefits of electronic publishing, such as being able to reach a worldwide audience at all hours of every day, the lack of cost for distribution, the word indexing that facilitates searching and retrieval, permanent archiving, and the like. Many editors are still of the opinion that it will be a slow process to acquaint much of their traditional readership with the advantages of electronic publications. However, the Project's server logged an average of nearly 8000 file retrievals per month from all over the world during the 1993/94 fiscal year. The server was storing only 78Mb in January 1994, 146Mb in August 1994, and 479Mb October 1994 (largely due to the addition of a daily newspaper).

Another strategy for achieving the goals of the Scholarly Communications Project is an extension of our library-oriented perspective, to offer subscribers and any of our readers a broad range of electronic access options, thereby improving current library services. Our publications are viewable in many different formats, offered to meet the wide-ranging expertise and equipment of our readers. Text-only articles and files are available through FTP, Gopher, and WAIS for those with low-end equipment (like the 286 IBM-clone I use at home); for the more sophisticated users and those with higher-end equipment, we provide formats such as PostScript, Adobe Acrobat, and HTML through the World Wide Web. Offering a range of publishing options to our editors of course affects the end-user or reader of the publications. Usage statistics show very significant increases in Gopher and Web access to the Project's server. On the other hand, the number of people using FTP to get our publications has declined significantly.

Our third strategy focuses on timeliness and is also an extension of our role as a department within the University Libraries. As a librarian I see timely access to information as an excellent enhancement to the services libraries provide and as an obvious outcome of library-based electronic publishing.

There are several aspects of timeliness. With our small staff we attempt to give access to the most expedient version of an electronic journal first. This means that if it comes to us with hypertext tags, Web travelers will get access to it first. Gopher access will come later, after we've stripped the document down to ASCII. Sometimes there is not much difference in the time of availability, but we needed to establish some priorities mainly to address anticipated time pressures as our list of publications grows but our staff does not. We also feel compelled to respond first to the requests of our most immediate clientele, that is, other librarians and university faculty; uploading the file sent to me from out of state is more easily postponed. Humans, not machines, are usually the causes of delays.

The fourth strategy the Scholarly Communications Project has for achieving its goals is to maintain access to all of our electronic publications all day, every day, forever. We have not had a problem in this area, and we hope we never will for we consider a reduction in our access options to be the same as reducing the hours the library is open. In spite of all the University Libraries' difficulties in managing with a constantly shrinking budget, the library has not reduced its hours of operations and constantly is adding online storage capabilities.

It is also quite helpful in maintaining access that once a publication, a picture, or a database is residing on the server, it requires almost no human intervention to maintain open access for users. The result has been someone retrieving a file from the Project's

server once every six or seven minutes of every hour of every day. The server, unlike like the library, did not shut down for a holiday or inclement weather.

Working within these goals and strategies, the Scholarly Communications Project staff has learned a lot about what works well and what has not worked well in our electronic publishing enterprise. What has not worked is persuading editors to take advantage of one of the real benefits of electronic publishing: there is no necessity to package together a group of articles as they must do for a printed publication. The editors tend to do all of their final file preparations at one time, rather than as each article finishes the review process. However, in the networked environment, where a publication does not have to fill a certain number of pages, each electronic article could be distributed to subscribers as soon as it is ready. Here is where the timeliness factor can have a major impact on the dissemination of scholarly research.

One option that our dual publication editors have found advantageous is putting back issues online. For example, even though we did not begin publishing the electronic *Journal of Technology Education* until 1991, the editor had saved all the previous issues on diskettes. It was relatively easy for Project personnel to load the back issues into the server and give access to the entire corpus of the *JTE* on the Internet. *Community Services Catalyst*, however, is more than twenty years old and back files are not available. With some financial support from the journal's sponsoring organization, students were hired to scan and OCR (optical character recognition) the two years prior to publication of the electronic version. Unfortunately, the funding ceased before the project was completed, and these back issues are not yet available online.

Collaborations with Traditional Publishers

An exciting upcoming project is *Technology, Science, Mathematics Connection Activities: A Teacher's Resource Binder*, from Glenco/McGraw Hill, a commercial publisher. The publisher's Director of Technical Education contacted me as a result of her conversations with the principal author, Dr. Mark Sanders (editor of the *JTE*), who presented her with the idea of electronically publishing these activities when he realized that the electronic version of his journal was reaching an audience far in excess of the printed version. The publisher's representative agreed because she saw the electronic publishing of this activity as a type of free advertising for the entire set. I saw it as an opportunity to collaborate with a commercial publisher, allowing us to gain some practical experience in and understanding of cooperative electronic publishing.

The problems: The software was not readily available nor familiar to the Project's technical director who at one time said, "If it's electronic, we can publish it." This is probably a true statement, but, practically speaking, we can most efficiently work with a limited number of familiar easily adaptable formats. Negotiating a mutually acceptable file format has become a more frequent topic of discussion between project staff and those to whom we offer our services.

Applying what we learned as journal publishers, I was able to offer some advice that also would apply to electronic books. For example, rather than receiving one big file, such as an entire journal or all 50 pages of this activity, we ask for each article or each component to be a separate file. There are several advantages in addition to the obvious ones of not slowing down transmissions or filling the reader's mailbox or disk with extremely large files. Readers should be able to get just the chapters or sections or articles they want to read, rather all the articles in an issue or every chapter in a book.

A cautionary note: when the files are separate, always put the name and date of the journal (e.g., fall 1994) or, in this case the name of the book and the chapter name and/or number in each file so that when it is separate from the terminal display and/or its source of information (e.g., a

printout) so that it can be uniquely identified and reveals where it came from or what it belongs with. The same is true of the copyright statement; this should accompany each file, even if the statement is only a warning about fair use rather than a proprietary one.

Another collaborative experience is a radical departure from any of our previous publishing ventures. In July 1994, the listserv VPIEJ-L posted a proposal being explored by the Scholarly Communications Project called the VT Model. This is a co-publication plan that looks at a way for traditional commercial and/or academic publishers to collaborate with academic libraries to pool their resources to take advantage of what the information highway has to offer both. It is a way for traditional publishers to also publish electronically and to keep libraries as a source of current as well as historical electronic information. We contacted Birkhauser Boston about an announcement they made in the *Journal of Mathematical Systems, Estimation, and Control.* Combining the Birkhauser proposal with ideas from a discussion at an SCP Advisory Board meeting, we prepared the VT Model, a proposal, not the definitive answer to electronic publishing but an idea disseminated for academic discussion.

Our proposal is to co-publish electronic journals, sharing the work between a traditional publisher and a research library. Journal editorial boards would continue to function much as they do now, but papers accepted for publication would be processed in two parts. One part would be the full text subject to minimal copy editing but retaining all aspects of full peer review to retain high standards of scholarship. The full text would be electronically available at no charge through a research library. The other part would be a summary or extended abstract published by Birkhauser, either on paper or through a database with access charges. This would be carefully edited to efficiently communicate the content and significance of the full text.

As the information explosion progresses our system of publishing and distributing

information must find ways to handle a much greater volume of new information. Libraries have the expertise to secure, organize, and indefinitely archive large quantities of information for public use. Publishers have expertise in the certification, sorting, and refinement of information. A much larger volume could be handled by both if we do not insist that everything pass through all parts of both systems. The VT Model proposes dividing the load between publishers and libraries to exploit the strengths of each.

How would the VT Model be beneficial to scholars? Scholars search for information in two modes: directed searches in which the objective is known, and browsing. Electronic networks offer wonderful tools for directed searching, especially when references embedded in an article link the reader directly to the referenced article. Electronic collections and tools like this are vastly expanding the directed search mode.

At the same time, browsing is not getting easier. The indexes and abstracts available for the huge spectrum of traditional journals is invaluable for more effective browsing and so far there is no real electronic substitute for the serendipity nourished by random browsing. Whether browsing paper or electronic files, high-quality abstracts or summaries can greatly improve the search results. We think that the vast majority of the people who "look at" an article are browsing, and read no further than the abstract. Therefore, it is not necessary to have the summary packaged with the full text; after information is discovered through a summary, getting the full text is a directed-search problem which can be handled efficiently.

The VT Model suggests a change in point of view about what a journal publisher's product should be. Currently the obvious product is full text. We suggest that the publisher's principle product could be summaries, and the full text would be regarded as an electronic supplement. The old mind-set was to deny access to non-subscribers. The new attitude would be that subscribers receive guides and aids to

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finding material which is in principle freely available, but in fact is buried in an avalanche of other electronic information.

Publishers Who Follow the VT Model Would:

1. Improve the availability of their electronic publications
2. Continue to manage the level of quality control through peer review process
3. Continue to be responsible for managing the distribution of scholarly information up to the costly points of printing and mailing
4. Save money by doing less printing-- using less ink and less paper
5. Save money by not having to maintain, store, and mail back issues
6. Save money by not having to establish the electronic archives that would store, maintain, and distribute electronic issues
7. Save money by not editing for display purposes (unless markup is done here)
8. Save money by doing less content editing
9. Save money by not having to index a title

There is a "product" which is seemingly invisible but which is very important-- quality control through editors and peer review. Traditional publishers currently have this track record and the VT Model offers a way to transfer this quality control to the network. Once the peer review process is completed, there should be little or no copy editing of the full-text file. Publishers cannot support copy editing of files for a free archive because editing is expensive and the costs cannot be recovered. Editing lies outside the expertise and mission of the library, so the library cannot support it either.

Editing here refers only to file and copy editing, and not content editing or refereeing; the full text should continue to meet the high standards of reliability, completeness, and scholarly integrity. Editors (and peer reviewers) should continue to request rewriting to improve

usability and readability. A loss of aesthetics seems a reasonable price for the increase in efficiency, and, indeed, should not be too a great burden on the reader. If the vast majority of users read the summary and go no further, those who progress to the full text primarily will be specialists focussing on substance and content. This and readability can continue to be insured by the peer review process--perhaps with some enhancements. Finally, this argument applies to the preparation of electronic files as well as copy editing. It should be the responsibility of the author to provide a usable file. The extent of this kind of editing could be a part of the decision to publish (by the publisher and/or by the peer review board). If an author cannot write clearly, should the article be published?

Scholarly material should be available electronically. The innovation in the VT Model is that electronic files are maintained by a library rather than the publisher. Archives maintained by a commercial publisher would almost certainly have to generate revenue and would probably fare poorly in competition with free, non-commercial electronic journal archives. The segregation of information by publisher is also not practical for researchers and scholars. To be successful the archive should be free, and publishers, therefore, probably should not do it-- libraries should.

Why Libraries Rather than Publishers Should Maintain Electronic Archives

1. To maintain and enhance commitment to availability of information: improve services by always having issues available (never missing from shelves, never missing pages, never at the binder, never locking the doors)
2. Librarians know how to help people find the information they want
3. Librarians know how to respond to user access problems
4. Subject specialists have the expertise to know where to insert the "hot" links between cross references
5. Libraries provide equipment for patrons and clients to use to read and

print
6. Libraries are a known central source of information from all over the world

While librarians have experience creating and maintaining indexes; this function can now be given to machines to index every file and integrate the indexes of each file within a journal title.

Part of the mission of a research library is to archive material and provide access to information, especially the results of scholarly research. Supporting electronic journal archives would be a direct contribution to this mission, but it applies library resources in a non-traditional way. The net effect is that all users get better access to more information.

At the Scholarly Communications Project we still have a lot to learn about electronic publishing, whether the VT Model works or not. We want to know more about how our presentations and displays meet our readers needs or expectations. Are our links helpful? We also want to learn more about automating file transfers to the Project's server and automating document markup.

We are also about to get involved in some huge projects, including bringing our cooperative extension service publications, past and future, to the Internet. Another project will be providing Internet access to the library's reserve collection. So far, we have operated on the periphery of copyright issues; most of our materials are copyrighted by the authors, the editors, or the university. We have maintained our traditional library perspective and the latitude that fair use gives us.

The support for all of our activities comes from the library and the university, but we

may have to seek supplemental funding. Our obvious initial choice is negotiating payments for our services with our commercial partners. It has been suggested that the services we provide to our university faculty could remain free, but we should charge off-campus collaborators for recovery of the cost for those services. I, of course, don't know what the future portends, but I would like to continue offering these improved library services without charging fees to the end users.

One of the remarkable things about the Scholarly Communications Project is that we are in a position to experiment, to make mistakes, and to not be overwhelmed or disappointed by the outcome. This wonderful opportunity has been supported for the last two years by our Interim University Librarian, Joanne Eustis, who has encouraged us to accept all the challenges of electronic information: "Just do it!" rather than devote too much time to investigating, studying, planning, testing, and analyzing. Electronic access to information is so new that over planning will not improve the chances of success; experimenting in brand new areas and learning from our experiences will.

This is why the Scholarly Communications Project is working with commercial publishers, with academic publishers, with editors and collection managers, with newspapers, and other produces of information. To date, none of our collaborators has seen anything but benefits from these electronic publishing endeavors. Paid subscribers have not been lost, and new, interested readers from throughout the world have been attracted to their publications. We will continue to build on our electronic publishing endeavors, learn from them, and continue to share them with you.

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Appendix

Scholarly Communications Project Virginia Polytechnic Institute and State University

History and Purpose

To pioneer in electronic communication of scholarly materials was the primary goal of the Scholarly Communications Project when it was established in the fall of 1989 by then-Vice President for Information Systems, Dr. Robert Heterick. Lon Savage directed the project until his retirement in December 1993; Gail McMillan assumed that responsibility in January 1994. James Powell is the technical director.

The pioneering efforts of the Project have included publishing electronic journals, article abstracts, and raw research data. The Project has expanded its initial goal to include editors and publishers become involved in the electronic publishing process, resolve technical issues related to information presentation and its rapid dissemination, and assist subscribers, including libraries, to use the electronically available information. The Project's priorities are to provide free and open access as well as to experiment with new technology. However, resolving technical issues through experimentation sometimes means using various display formats that are not yet in common use by a journal's subscribers.

James Powell, shared by the SCP with the Libraries' Automation Department, is responsible for the technical wizardry behind the projects. Through his hard work and dedication to library services and electronic communications, the publications of the Scholarly Communications Project are viewable in many different formats, including ASCII (i.e., text-only), as well as marked-up texts (HTML) and PostScript graphics. These are available through FTP, Gopher, freeWAIS, and World Wide Web clients. Not every publication is available in every format; the Project is experimenting with finding the most useful retrieval and display formats for the subscribers, the university community, and the Internet community. The Scholarly Communications Project is committed to maintaining all issues of its publications online indefinitely. Additional disk storage is coming to ensure that the Project can continue to expand its activities, especially for digital images and newspaper access. Our October 1994 archive required 479Mb, up from 78Mb of storage we were using in January 1994.

Access the Project at:
    http://scholar.lib.vt.edu/   and
    gopher://scholar.lib.vt.edu:70/

Journal of the International Academy of Hospitality Research

JIAHR was the first electronic journal published by the Project (November 1990). Each article is published as it completes the peer-review and editing processes. All of its text-only issues have been distributed via the Internet, avoiding the costs of paper, printing, and postal charges. Its editors, originally Dr. Mahmood Kahn and now Dr. Eliza Tse, are on the faculty of Virginia Tech's Hotel, Restaurant, and Institutional Management Department.

Community Services Catalyst

Catalyst was one of the first print journals to be published both traditionally and electronically when the Project began publication via the Internet with the summer 1991 issue. Scanning and OCR (optical character recognition) technology have been used to extend the electronic archive of back issues to 1989. Founded in 1973, *Catalyst*, a journal for community college educators, is edited by Tech faculty member, Dr. Darrel Clowes.

Journal of Technology Education

Another print journal that is also published electronically by the Project is the *JTE*, edited Dr. Mark Sanders, Technology Education, Virginia Tech. Because he has been electronically preparing the journal for publication with standard word processing since its first issue in 1989, the Project easily made the entire run available online although actual electronic publishing began only in the spring of 1992. *JTE* is also unique because each issue contains graphics and that are part of the electronic publication. Readers with text-only capabilities have full access to the text of the journal, while readers with greater capabilities can also retrieve the graphic illustrations, either integrated into the article (as they are in traditional publications), or as separate PostScript files. Volume 6, no. 1 (fall 1994) was the first issue presented in HTML.

Journal of Industrial Teacher Education

The Project's newest electronic journal became available in November 1994 with the fall issue. *JITE* is our first publication to be edited by faculty at another institution; Dr. Scott Johnson is at the University of Illinois at Urbana-Champaign.

Journal of Veterinary Medical Education

In July 1994 the Project began publishing its most attractive electronic journal. *JVME* is our first scholarly journal with in-line color graphics and hypertext articles. Beginning with vol. 21, no. 1, it is available for World Wide Web clients; we use Mosaic. The editor was Dr. Richard Talbot, on the faculty of the Virginia-Maryland College of Veterinary Medicine.

Modal Analysis

The Project publishes the online abstracts of the print quarterly *Modal Analysis: The International Journal of Analytical and Experimental Modal Analysis*, a journal of the Society for Experimental Mechanics (SEM). The Project does not publish the articles because most subscribers cannot access and print Mosaic, PostScript, or Acrobat files, which are typically required to display the integrated text and "graphics" (i.e., non-ASCII characters such as mathematical symbols). In 1993 the print publication moved to SEM with the understanding that the Project would continue to publish the *Modal Analysis* abstracts as well as those of its *Experimental Mechanics*.

Journal of Fluids Engineering

Another challenge to electronic publication is the *JFE*, edited on campus by Dr. Demetri Telionis. The Project provides access to the raw research data used as the basis of papers disseminated in the print journal. A digital video of blade- vortex interaction experiments has been added to the Project's server. Future plans include establishing an interactive online discussion of *JFE* articles for fluids engineers.

Other Publications

Under this new heading on the Project's home page are: *The Report of the Scholarly Communications Task Force* (policies and procedures for making available electronic journal subscriptions through University Libraries Gopher) and *Scholarly Communications Project: Technology Summary* (a slide show about our current technology and some future plans). Also available are the FDA Approved *Animal Drug Data Base*, experimental work with electronic theses and dissertations, and in-house publications such as "Spinning the Web: Introduction to HTML (James Powell, Sept. 1994).

Spectrum

The text of our faculty/staff newspaper, the *Virginia Tech Spectrum*, has been available electronically through the Project's server since May 1993. While it is not mailed to a list of electronic subscribers, the complete text of each issue is available as a weekly publication and as an online, word-indexed, text archive. Towards developing an online publication that more fully replicates the design and layout of the original tabloid, two experimental issues are also available, one with hypertext and the front page photo, and one with a bitmapped image of the front page and links to the ASCII text.

VPIEJ-L

Available since June 1992, VPIEJ-L is a source of online discussions about all aspects of electronic publishing. Over 900 subscribers, including publishers, editors, technical staff, programmers, librarians, and others, have discussed such topics as what distribution methods work better than others; how end- users are accessing and using electronic publication; formats and mark-up languages; and software and hardware considerations for creation, storage, and access to electronic journals. Discussions have addressed the cost of electronic journal publishing as well as new ideas for collaboration between commercial publishers and libraries.

Digital Images

In the spring of 1994 images from the University Libraries' Special Collections Department were digitized by the university's PhotoGraphic Services through the Kodak CD processing. Two small collections (cadet uniforms worn by Virginia Agricultural and Mechanical College and Virginia Polytechnic Institute students, and Norfolk and Western railroad engines, bridges, and advertisements) are currently accessible on the World Wide Web. Project staff added brief text and appropriate hypertext links that connected, for example, N and W railroad pictures to the Virtual Railroad, and that linked an older style cadet jacket to its later version.

Digital Video--motion and sound

Through a donation from our local television station, CBS- affiliate WDBJ-7, the Project will have the opportunity to provide online access to WDBJ-7's news archives extending back to the 1950s. A small portion of the scripts, log books, and video clips from May 1977 is currently available for experimentation on the World Wide Web as we try to determine how best to make these materials available. The inclusion of hypertext links to move within this collection of local news would enhance its research value as would links between this local television archive and a local newspaper archive.

Virginia Pilot/Ledger Star

Through collaboration with Landmark Communications, the Project provides access for the Virginia Tech university community and the Blacksburg Electronic Village (BEV) to *VPLS*. Landmark also owns the *Roanoke Times* and *World News* which we hope to have online in the very near future. We are hoping to provide current, daily access. While a newspaper archive will be a useful by-product of this endeavor, same-day access is our goal but is not currently technically possible.

Experimentation and the Future

Electronic publishing of scholarly research will continue to be a priority as we continue to work with journal editors and publishers. The Project has agreed to publish nine new electronic

journals fiscal year 1994/95; the abstracts of four more will result from collaborations with a British publisher and others. We are also working with other library units and the Virginia Tech Graduate School to publish electronic theses and dissertations of VT graduates. The current plans call for the Adobe Acrobat Reader for access to the full publication; the Project plans to provide open access to authors, titles, and abstracts in ASCII also. We hope that hypertext links eventually will provide easy access to related publications.

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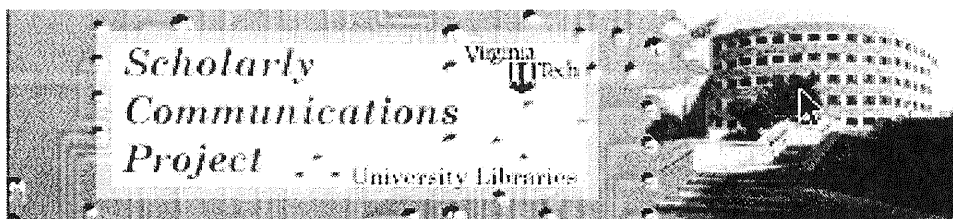
Electronic Journals

- The Community Services CATALYST
- The Journal of Fluids Engineering DATABANK and related resources
- Journal of Industrial Teacher Education
- Journal of Mathematical Systems, Estimation, and Control
- Journal of Technology Education
- Journal of the International Academy of Hospitality Research
- Journal of Veterinary Medical Education
- Modal Analysis

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Filling the Pipeline and Paying the Piper

Proceedings of the Fourth Symposium

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Credits

The image on the cover is reproduced from a photograph supplied by the
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De Humani Corporis Fabrica of Andreas Vesalius of Brussels, first
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Venice, perhaps in the studio of Titian, and passed by legacy and purchase
through the hands of many early printing families. After loss and
rediscovery, they were entrusted to the Bavarian anatomist H. P. Leveling
of Ingolstadt who issued editions (with altered title page) in 1781 and 1783
at Ingolstadt -- where, says Mary Shelley, Victor Frankenstein was
trained. The blocks remained in Germany until they were destroyed by
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Fourth Symposium.

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