

LINKS TO LAKES

The Newsletter of the Arthur Lakes Library

[html://www.mines.edu/library/](http://www.mines.edu/library/)

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Colorado School of Mines

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From the Director

by Joanne Lerud

The Arthur Lakes Library chose the Endeavor Information Systems, Inc. Voyager system as our new integrated library system in December 1999. However, the task of naming the system remained. This Spring the Library staff decided that the best means accomplishing this would be to hold a contest. We wanted suggestions from the people who use CARL everyday **and** who are more than ready for a new system.

The response to the contest was overwhelming. We received over 150 entries – not including the duplicates! Some of you wanted the system to carry your own name, but didn't offer the necessary matching endowment. Some of you offered acronyms of words, while others offered eloquent alliteration. Some of our favorites were:

INC (It's Not CARL)

Marion (the librarian from "The Music Man")

MINER (Mines Information Network Electronic Resource)

MULE (a very dependable worker once you learn to "push its buttons!")

SAGE (a wise person, not the herb)

In the end a blind (no contestants names were listed) list was given to me for selection. The college humor entries, the creative acronyms, and the serious suggestions were all considered equally. After I narrowed the long list down to my five favorites. The names were researched with CSM's intellectual property attorney for conflicts with other registered names. Our choice was eventually approved with the promise that we would consider changing the name if a reasonable challenge was tendered. Hence, the new name of the Colorado School of Mines' Arthur Lakes Library's catalog is:

Catalyst

I trust you all will continue in the creative bent and develop both an acronym and a slogan for us to use with **Catalyst**.

**On June 1, 2000, our new fully Integrated
Library System will go live to the world!**

A Primer for Electronic Theses and Dissertations (ETDs)

by Christopher Hooper-Lane

A Primer for Electronic Theses and Dissertations (ETDs)

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"Perhaps no technological development in recent years has so energized the academic community as electronic theses and dissertations."

--G.J. Soete in *Transforming Libraries* (no.7, 1998)

In the spring of 1997, Virginia Tech Mechanical Engineering graduate student Julien Maillard completed his Ph.D. dissertation entitled *Advanced Time Domain Sensing for Active Structural Acoustic Control*. Instead of submitting the requisite four or five paperbound copies of his work to get shelved in departmental offices and dissertation rooms of libraries, Julien transmitted a single a 12Mb PDF file to the Digital Library and Archives at Virginia Tech. Later that spring, the entire dissertation, with its 55 graphics, was up and available for the world to access on the Networked Digital Library of Theses and Dissertations (NDLTD) website at <http://www.theses.org/>. As of today, Julien's Ph.D. dissertation has been accessed a stunning 75,339 times.

The benefits of ETDs

Students, faculty, and administrators around the country are becoming aware of the potential benefits of electronic theses and dissertations (ETDs) and are now calling for implementation of ETDs at their institutions. These benefits include: (1) greater freedom for authors to creatively display the results of their research by inserting hypertext links to other electronic resources, or utilizing sound, motion, and/or computer simulations; (2) assistance in the development faculty and students as electronic scholars; (3) simplification of the preparation process – most, if not all, dissertations are already created in an electronic format, therefore, submission may not take more effort than sending a document to a printer; and (4) significant improvements in access to and exposure of graduate research by making it immediately available to a huge audience through the Internet as illustrated by the scenario above.

There are also advantages to ETDs from the library's point of view: unlimited access to current research (available 24 hours a day, no overdues, no fines); fewer or no paperbound copies to handle and less shelf space required for storage; and cheaper to deliver, distribute, or ship.

The drawbacks of ETDs

There are, however, some serious concerns surrounding the use of ETDs: (1) the costs of implementation are substantial – Columbia University recently published a study stating that the basic technological (hardware and software) start-up costs for them would over \$20,000; (2) certain publishers consider dissertations displayed over the Internet to constitute prior publication and thus prevent graduate students from publishing the research in certain journals; (3) copyright legislation is still incomplete concerning electronic publications, and, until regulations become more definite, questions will arise about students' intellectual and economic rights to their work; (4) file integrity; and (5) the long-term archiving technology is still unsatisfactory. This final concern, ETD preservation, may prove to be

most the problematic as evidenced by the strong and clear opening paragraph of *The Draft Report of the Task Force on Archiving of Digital Information*:

Continued access indefinitely into the future of records stored in digital electronic form cannot under present circumstances be guaranteed within acceptable limits. Although loss of data associated with deterioration of storage media is an important consideration, the main issue is that software and hardware technology becomes rapidly obsolescent. Storage media become obsolete as do devices capable of reading such media; and old formats and standards give way to newer formats and standards. This situation holds both true for electronic records derived through conversion from some analog form (paper, film, video, sound, etc.), and for records that originated in electronic form.

ETDs formats

At this point in time, there are essentially two acceptable formats for ETDs: PDF and SGML. Both have limitations and as a result neither are wholly embraced.

PDF (Portable Document Format) is a format created by Adobe Systems, Inc. that creates snapshots (images) of documents. PDF allows for the transfer of documents created in any electronic software package that prints through Windows (i.e., word processors and other text processors) to be made available on the Internet. PDF files can be downloaded and read using the *Adobe Acrobat* reader, which is freely available on the Web. Documents created or converted to PDF retain all formatting and graphics and allow for hypertext links and annotations. In addition, the *Adobe Distiller* product can convert TeX/LaTeX – a formatting language that excels at mathematical equations and for managing two-dimensional presentations of data – documents into PDF. Certainly, the strongest argument for using PDF lies in the simplicity of converting to the format. One can have a PDF version of almost anything printable. In addition, PDF files are available across all platforms and since the PDF files store physical formatting information, they will appear in a consistent manner to any reader. However, nearly all the schools agree that the archival issue renders PDF insufficient over the long-term: PDF is not a universal specification, but a copyrighted format wholly-owned by Adobe Systems, Inc., which means that any future developments, including the price of their now free PDF reader, are determined solely by this private company.

SGML (Standard Generalized Markup Language) is a computer language that uses tags (commands enclosed in brackets) within a document to embed various formatting codes. The most popular form of SGML is HTML, the language of WWW documents. SGML has potential because it is platform/format/application independent, converts easily to other modes of presentation, and would handle multimedia much better than PDF. SGML allows for the "exchange of information at any level of complexity among software, hardware, storage and presentation systems (including database management and publishing applications) without regard to the manufacturer's name on the label" (SGML Primer). One of the distinctive

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and useful characteristics of SGML is its application of the concept of document type definition (DTD), which defines particular structural units for a particular type of document – a dissertation has an author, title, statement of degree-granting institution, abstract, etc. This definition of a set of tags for a particular document type specifies exactly what the document will look like. Of course, the process is more sophisticated than this simple example and therein lies the difficulty in using SGML: reliable DTDs are not available for dissertations. Therefore, the greatest disadvantage to SGML lies in its complexity, and even with a suitable DTD, the average student may find the conversion process difficult, as there is no simple editing/authoring tool for converting a word processor document into SGML. XML (eXtensible Markup Language), a new simplified form of SGML, may help to provide a solution to the difficulties of SGML. XML is considered “flat data”; that is, files that can be read and the data within accessed without specialized software. XML meets the US Government’s digital and archival records requirement (and international, commercial, and academic disciplinary standards as well), while still remaining expandable. Therefore, publishing ETDs in XML presents significant advantages over HTML or PDF formats. In addition, XML has been embraced by the many of *the* players of electronic commerce: Amazon.com, WordPerfect Office 2000, and Microsoft’s Office 2000 all have XML components.

The major initiatives/initiators

The Networked Digital Library of Theses and Dissertations (NDLTD) grew out of one of the first meetings about ETDs (in 1987) between representatives from Virginia Tech, the University of Michigan, UMI, SoftQuad and ArborText. Virginia Tech jump started the initiative with a grant from Southeastern Universities Research Association, Inc. With additional funding provided by the U.S. Department of Education’s Fund for the Improvement of Post-Secondary Education (\$210,000), as well as over \$1,000,000 from corporations such as Adobe, IBM, and Microsoft, the NDLTD became the national expansion of the Virginia Tech pilot project. At this time there are 78 US and foreign institutions affiliated with the NDLTD. Membership is free and entails a letter of commitment, collaboration with other members in establishing standards and sharing of information to ensure interoperability, and sharing all ETD MARC bibliographic records. Member libraries are responsible for serving and maintaining their own dissertation files, as well as for implementing their preferred method of archiving. Although the NDLTD welcomes participation in, for example, developing templates and testing software, there is no obligation to do so.

UMI (the dissertation arm of Bell & Howell, Inc.) became the initiator of the movement toward digital dissertations by convening the 1987 meeting to discuss the concept. Although UMI has a representative on the NDLTD’s steering and technology committees, has cooperated with Virginia Tech since the start of the project, and continues to be active with the NDLTD, they developed and now offer their own ETD service through UMI’s ProQuest Digital Dissertations program. For a \$50 fee, this service accepts dissertations in electronic (Adobe PDF, Postscript, MSWord, or WordPerfect), paper, or microfilm formats and then scans and digitizes the submissions into the PDF format. Submissions in electronic format are printed out and microfilmed for archival purposes, and the digital format will be entered into the digital archive for distribution online. Institutions that do not subscribe to the UMI service pay \$19.50 for a copy of the digital format of a dissertation (with a discount for additional titles). Schools that do subscribe get web access to Dissertation Abstracts, a preview of the first twenty-four

pages of all digital dissertations, access to all ETDs from the U.S. and Canada from 1997 onward, and online access to MARC bibliographic records for the parent library. The subscription price for full text for library varies between \$30,000-\$50,000 per year.

University of Montreal Press has commenced a pilot program to develop a mechanism for publishing ETDs in SGML and PDF. This program is significant because their efforts are focused on converting documents from popular proprietary formats to the TEI Lite DTD. They do so by providing templates for authors to create documents that have identifiable structural elements that can be mapped to the DTD. For instance, they have created a Word template file for Microsoft Word documents, with fill-in headers already established for major divisions of text (acknowledgements, table of contents, etc), and a set of pre-defined Word paragraph styles for authors to format their documents. The documents are then saved as Microsoft Rich Text Format (RTF) files, and converted to SGML and XML using the *Omnimark* conversion software.

A not very final assessment

It seems institutions are choosing between the following four options based on the format they decide to use and the date they want to implement ETDs. For convenience and immediate implementation, certain schools are simply choosing to submit their dissertations to UMI and letting UMI do all the work. Many would argue that this is the best approach for the smaller schools who don't have the resources to create or convert their own ETDs. Other schools are creating their own ETD libraries (websites) in either PDF or SGML formats. The majority of these, following Virginia Tech's lead, are using (or planning to use) PDF as an interim format while waiting for better technology *a la* XML to take over – I believe that Virginia Tech is planning to convert the ETD's from PDF into the newer technology when that becomes available. (Sidenote: Adobe Systems, Inc. representatives have mentioned that a PDF to XML converter may be in the works). Fewer schools, such as the Universities of Michigan, Iowa, and Montreal are opting to explore/exploit the XML potential and are in the process of developing tools to utilize the XML format. The final option is, of course, is to do nothing and wait for these schools to develop established XML tools (converters), an option that does not sit well with those who want to start reaping the benefits of ETDs.

"Because It's There": Reviews of Three Books on George Herbert Leigh-Mallory.

Book reviews by Robert Sorgenfrei

Almost a year ago, an expedition on Mount Everest found the remains of George Mallory, pioneer Himalayan mountaineer who when asked why he wanted to climb Mount Everest, was quoted as saying: "Because It's There". In June of 1924, Mallory made an attempt to be the first person reach the summit of Everest with his climbing partner, Andrew "Sandy" Irvine. Both climbers were seen disappearing into clouds at the base of a formation called the Second Step on the ridge leading to the summit of Mount Everest. They were never seen again. In May, 1999 the Mallory-Irvine Research Expedition set out to try to solve the mysteries surrounding the two climbers. Did they reach the summit? And what happened on that fateful day? Although the Expedition succeeded in finding Mallory's body, and obtaining a number of artifacts, they raised as many questions as they answered. In the months following the Expedition's return from Everest, a number of books were

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Book Reviews

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written by its various members, all trying to shed light on their discoveries. The Library has all three books reviewed here.

The Last Climb: The Legendary Everest Expeditions of George Mallory by David Brashears and Audrey Salkeld, **(GV 199.92 .L44 B74, 1999)**, is not a book about the Expedition to find Mallory. Rather, it is a reread of previously published information on Mallory. Although it is a rehash of old information, it still is an excellent history of the three climbing expeditions Mallory undertook to Everest. The text is accompanied by stunning photographs taken in the 1920's of the actual expeditions. In those days, the expeditions had to walk from Darjeeling, India, over Himalayan passes, across the Tibetan Plateau to Mount Everest. This served to acclimate its members to extreme high altitude, and probably made them physically better suited for Everest than modern climbers. However, no matter how much in shape they were in, they lacked most equipment Everest climbers now take for granted. Instead of high tech boots, down parkas and pants, they had hob-nailed leather boots, silk underwear, flannel shirts, and wool tweed jackets. The oxygen bottles they carried were heavy and prone to breaking down while in use. Some mountaineers of the time thought it unsporting to use oxygen, but Mallory realized their use might mean the difference between success and failure. In all, the book gives the reader the historical background needed to understand how Everest expeditions in the 1920's were organized. The book ends with the disappearance of Mallory into the clouds of Everest en route to the summit in 1924. It speculates on what might have happened that June day, but wisely avoids any discussion of the 1999 findings, leaving that to others.

Ghosts of Everest: The Search for Mallory and Irvine, **(GV 199.44 .E85 H46 1999)**, was a group effort of most of the 1999 Mallory & Irvine Research Expedition, and offer opinions on the mysteries not yet solved. This book gives the reader background information on Mallory and his three Himalayan expeditions. It tells of the plans and efforts to launch a search for the remains of Mallory and Irvine. The 1999 Expedition thought if they could locate a 1975 Chinese base camp, near which was reported a very old body described as "English Dead," they could search the area for that body. A great amount of information is given as to the finding of the base camp, what was found on the body, and the circumstantial evidence as to how Mallory died. The last chapter deals with the questions of did they make it to the summit? The conclusion is that it is not certain, but possible they did.

Conrad Anker was the climber who actually discovered Mallory's body. He wrote his own book, entitled: *The Lost Explorer: Finding Mallory on Everest*, **(GV 199.92 .L44 A54 1999)**. Anker gives the obligatory background information Mallory and his mountaineering career before going discussing the 1999 Expedition and his role in it. He relied a great deal on intuition during his search, going lower off the main ridge of the summit approach than the other Expedition members, into what he termed to be a "natural catchment basin." In this basin, off by itself, Anker glimpsed something the color of alabaster, and clearly not part of the rock slope. As he got closer, he saw a hob-nailed boot and tattered clothing made from natural fiber. He realized that this body was old since it was not clothed

with modern boots and materials. At first it was thought to be Irvine, but monogrammed labels in the body's shirt collar read "G. Leigh Mallory." Since Anker was the one to discover the body, it is not surprising that his account of the search is the most compelling. Anker attempted to prove that Mallory might have made the summit by trying to free-climb the difficult Second Step of Everest: a vertical cliff-like obstacle that must be climbed in order to make the summit. Since Anker did not succeed in doing this, he is led to believe that Mallory failed to make the summit and was on his way back down when tragedy struck.

The Mallory & Irvine Research Expedition had hoped to find a pocket camera. If the camera's film was still intact, it might have confirmed if Mallory and Irvine reached the summit. However, it was not on Mallory's body. It may be with his climbing partner, Sandy Irvine whose body has not yet been found. According to the description of the Chinese climber who in 1975 found the body of an "English Dead," it was lying face up. Mallory's body was found face down. It is likely that Irvine still lies somewhere on Everest.

All three books give ample background information the history of early Himalayan mountaineering, and convey well the harsh environment of Everest. While each has a different slant to the Mallory controversy, they all pay tribute to him and Sandy Irvine for attempting to climb this mountain with their "primitive" equipment. Even if they did not reach the summit, to get as far as they did was an impressive feat of mountaineering. Another expedition is planned for this year to attempt to find Irvine's body, and further evidence of the two's trek into the clouds.

Arthur Lakes Library and the National Mining Hall of Fame and Museum awarded \$5,000 Digitization Grant

by Cathy Van Tassel

The Arthur Lakes Library, in association with the National Mining Hall of Fame and Museum (NMHFM), in Leadville, Colorado has been awarded a \$5,000 grant from the Colorado Digitization Project (CDP) for their project: "Mining and Mineral Industries the US: Photographic Perspectives." More information about the CDP and the funded projects is available at: <http://coloradodigital.coalition.org/cdp.html>. Principal investigators for the CSM/NMHFM project are: Ms. Marilyn Stark (NMHFM), Ms. Lisa G. Dunn (CSM Library), and Ms. Cathy Van Tassel (CSM Library).

Both the Library and the Hall of Fame house unique collections of photographs and images of mining related activities from the late 1800s - 1970s, with an emphasis on activities in Colorado and the West. The images depict mining operations, including ore processing, mining equipment, and mine operators, as well as mining towns and their inhabitants. However, the collections remain largely inaccessible because the current

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Mining Digitization Project

Mining Digitization Project

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finding aids are limited or do not exist at all. The purpose of this project is to digitize a number of the photos and images, and make them accessible to the public via the World Wide Web.

This is a pilot digitization project for both organizations. As a part of the grant funding, recipients are trained in methods, and gain experience, in the technical and organizational aspects of digitizing collections. Although the focus of this funded project is access, not preservation, each item will be assessed for basic preservation needs. The project is in the planning stages with the first digital images expected to be mounted on the Web in Spring 2001. The principal investigators also hope that the increased accessibility of, and awareness about the collection will encourage individuals to donate additional photographs and images of CSM and mining history, which are a tremendous historical resource, to the Arthur Lakes Library. The Library is excited to be a part of such a ground-breaking project which will make photographs and images of mining in Colorado and the West more accessible to scholars.

Journals Project

Summer Journals Binding Project

The Library will begin its annual journals binding project May 9. Summer is the ideal time to ship unbound journal issues off to the commercial bindery because the end of the academic year signals a temporary a reduction of usage levels in the Library. Even though journals will be leaving the Library all Summer long at the rate of several hundred volumes per week, the longest a journal issue would be off the shelf is 4 weeks. We begin with those titles that receive the heaviest use by CSM faculty and students, and continue throughout the Summer in an attempt to get as many titles bound as possible by the start of the Fall semester. We realize that there will be some inconvenience associated with this necessary collection maintenance project, but we kindly ask that you bear with us.

Library Notes

LAURA WHITHORN has joined the staff in the Government Publications and Maps Sections. Laura grew up in Denver, and recently graduated from the University of New Mexico.

After 7 years of service at Circulation, **HANNAH BUCHOLZ** will be leaving the Library in late May for the greener pastures of southern Indiana.

Library Directory

Director.....	x3690
Circulation.....	x3698
Information Delivery/ILL.....	x3699
Information Delivery/Photocopy..	x3899
Reference.....	x3694
Government Publications.....	x3695
Maps.....	x3697
Acquisitions.....	x3691
Cataloging.....	x3692

Library Hours (School Term)

Monday-Thursday.....	7:30 AM to 12 Midnight
Friday.....	7:30 AM to 6:00 PM
Saturday.....	9:00 AM to 5:00 PM
Sunday.....	3:00 PM to 10 PM