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THE S.D. WARREN PAPER MILL PHOTOGRAPH COLLECTION

SYNOPSIS:

This presentation discusses the systematic procedures used in digitizing the S. D. Warren Paper Mill Photograph Collection and its use from beginning (appraising) to end (preservation and accessibility). It will also show how new and emerging technologies have affected digital imaging procedures and standards between 1997 and 2004.

POINTS COVERED ARE:

- Appraising the collection
- Collection arrangement
- Rehousing
- Cataloging photographs for accurate sorting and searching of collection
- Copyright concerns
- Software and equipment
- Digital scanning standards (Benchmark) in 1997 and 2003

PROJECT OBJECTIVES 1997:

- To explore various methods of image capture and conversion to digital format.
- To help increase access to underutilized visual materials of historically significant photographs via internet
- To develop copyright and fair use policies
- To explore other institutions who have pursued similar avenues.

BRIEF BIOGRAPHICAL AND HISTORICAL NOTES

Samuel Dennis Warren was born in Grafton, Massachusetts September 13, 1817. His early education was in a rural school in Grafton, a Quaker school in Groton, and then an academy in Amhurst. However, a higher education did not seem to agree with him and at the age of 15, his academic learning came to an end when he entered the employment of Rant & Daniell—dealers in paper and paper mill supplies in Boston. For six years he did whatever was asked and, at the age of 21, with no monetary investment on his part, became junior partner of the firm changing their business name to Grant, Daniell & Company.

In 1851, Samuel Warren made his first trip to Europe to buy rags which were to be used as the basic raw material for making paper. This was done again in 1853 making him a pioneer in the business of papermaking. That same year his firm leased a paper mill in Pepperell, Massachusetts. The mill had a capacity of two tons a day and thus, his firm controlled the making and retailing of paper. As history would prove, Mr. Warren had visions that would carry him far beyond the role of a junior partner. He was one who organized, managed and assumed the risks of business—he was an extraordinary nineteenth century entrepreneur.

In 1854, for \$28,000, Mr. Warren and Mr. Daniell purchased the paper mill owned by Day & Lyon in what was to become the city of Westbrook, Maine. The city was then a hamlet of a half dozen houses and the mill, giving the appearance of neglect and poverty. At that time, the mill Day & Lyon Mill consisted of two paper machines that were in operation with an output of some 3,000 pounds per day. In 1863, a third machine was installed and production jumped to 11,000 pounds per day. In 1855, Mr. Warren had purchased the interest of Mr. Daniell and the firm's name changed to Grant, Warren and Company. In 1867, a reorganization took place and the other partners of Grant, Warren and Company started their own firm. Samuel Warren continued the mill business in his own name. In 1880, production of the paper mill had grown to 35,000 pounds per day. Samuel Dennis Warren died on May 11, 1888 but the mill continued on under the direction of John E. Warren. The mill exists today after two buyouts. One in 1967 when Scott Paper purchased S.D. Warren Paper Mill and in 1994 when it was purchased by SAPPI Fine Papers, a South African based company. Facing many changes in the last century, the mill that once employed over 2000 people has been reduced to 500 employees with only three paper making machines. However, the market-leading paper that S.D. Warren makes today was invented and patented here at Westbrook. Westbrook still remains a leader in its industry.

**GETTING STARTED
PROJECT START TO FINISH
October 22 thru December 17, 1997**

APPRAISING THE PHOTOGRAPH COLLECTION

In early 1997, early S.D. Warren mill photographs were found scattered throughout the library. Some were found in boxes tucked in the basement while other were in envelopes kept in drawers on the library's main floor. All in all, over 200 photographs featuring images of the mill building and its employees dating between 1880 to 1950 were found. After a thorough search throughout the building, photographs were gathered up and kept in one location until they could be assessed.

On October 22, 1997 The collection consisted mostly images of interior and exterior of the mill, mill workers and mill events. Inclusive dates were 1888 to 1907. Once we determined that all photographs in the library were found, we assessed their value. Were the photographs unique? Did we have negatives? Did the photographs have historical value. By asking these questions, we were able to set priorities and budget.

“Were the photographs unique?”

Yes, they were unique to the overall collection and to the community whose history tied in with the S. D. Warren Paper Mill. The photographs also came directly from the S. D. Warren Paper Mill in the 1950s. After much research, Provenance was determined. The photographs were brought over by Howard Stevens, an employee of S. D. Warren Paper Mill whose wife was a librarian at the Warren Memorial Library. Photographs were brought over between 1954 and 1963. Reason for taking photographs is unknown but speculation tells us that there may have been a concern that the mill would dispose of the photographs. This proved true when in 1972, S. D. Warren Paper Mill was purchased by Scott Paper and thousands of documents and photographs were destroyed.

“Do we have negatives?”

Yes, 25% of these photographs were found in the Rowe Slide Collection as glass negatives as well as lantern slides produced from the glass negatives. However, these glass negatives are not original, but in fact, created from the photograph. We could say that this was an early form of copy negs.

“Did the photographs have historical value?”

Yes, these photographs were important to Westbrook History and it's manufacturing industry. It also had historical value because the Warren Memorial Library was once the Mill Library making it a part of S. D. Warren Paper Mill history. It also had value because it showed the paper making process at that time and the paper mill industry is a staple in Maine.

“Who will use the photographs?”

Students, local historians, researchers and faculty from the neighboring university will most likely be the primary users of this collection. Most recently, interest in S. D. Warren Mill History has increased due to major cut backs in mills through the state, changes in mills management procedures, and reduction of paper production throughout the state.

“What type of formats, sizes, process and quantities were in the collection?”

Mr. Abraham Schechter, a photo archivist and librarians from Portland, Maine was invited to the library to help determine and identify type of photo processes. This, in turn, helped us determine what preservation needs were required. Early photographs (1880-1907) were albumen prints mounted on board while later images (1920+) were silver gelatin prints and modern photo process. We also found one cabinet card and one collodion print. This information helped us determine what types and amounts of rehousing materials would be needed.

By appraising the collection, we were able to accomplish the following:

- Identify the images.
- Find those that have glass negatives.
- Determine their enduring and historical value to the library and community.
- Determine the cost for rehousing.
- Determine the overall cost of copy negs.
- Which photographs needed immediate preservation due to fragility.
- Determine the selection criteria and guidelines for scanning.

CONDITON OF COLLECTION

The condition of the photographs vary from very poor to good. All the photographs have some form of deterioration. These are:

- visible signs of silver nitrate
- fading of albumen prints
- darkening of albumen prints
- scratches
- tears
- brittle boards

Of the 110 images, over half of the early images of mill history were albumen and/or gelatin silver prints. The albumen prints were clearly the most fragile. Although it was not feasible to reformat all 110 photographs, discussion was open for the possibility of making copy negs of the early photographs (albumen print only). *(Copy negatives or reproduction duplicates is the process of projecting onto duplicating film from prints and non-translucent media. These*

copynegs could then be used to produce photographic prints.) However, we found the cost of reformatting 65 photographs to 4 x 5 copy negs cost the library \$1,335.00. The library budget was fixed and we were not able to go forward with the project. The copyneg project would be placed on hold until the Foundation who funded the library would release the necessary funds to complete this project. In the meantime, the assessed collection was being rearranged and organized and rehoused.

ARRANGEMENT OF COLLECTION

Cataloging

The S. D. Warren Paper Mill Photograph Collection was arranged by assigning “subject headings” appropriate for each photograph or photographs. Since the photographs were originally scattered throughout the library, there was no real order therefore the need to create order was established. The photographs were arranged by subject. They are:

- Power Stations (001)
- Machinery (002)
- Building—Exterior (003)
- Building—Interior (004)
- Events (005)
- People (006)
- People at Work (007)
- Railroads (008)
- Miscellaneous (009)

To identify this collection from other photograph collections, an acronym was used. SDW represents S.D. Warren Paper Mill Photographic Collection, where as, RS represent the Rowe Slide collection, etc., etc. The numbers after each dot represents a part of the collection. For example, the photographs themselves were each assigned series/subject number, a photo number and a copy number. We used this cataloging system:

SDW = Collection name

SDW.001 = series/subject level

SDW.001.1 = photo number

SDW.001.1.2 = copy number

- SDW.001.1.1 is interpreted as S.D. Warren Paper Mill Photograph Collection, subject/series “Power Station”, photo number 1, copy 1.
- SDW.002.2.2 is interpreted as S.D. Warren Paper Mill Photograph Collection, series/subject “Machinery”, photo number 2, copy 2.

CASPR collection management program was used in cataloging the photographs. Cataloging instructions were created and because the collection was small, photographs were cataloged at item level instead of as a collection

Photographs may have more than one subject heading. For example, if a photograph prominently displays a worker using a specific type of machinery, both subject heading "People at work" and "Machinery" can be used. **(See appendix A)**

HOUSING OF COLLECTION

Handling and Storage of Collection

Original photographs were housed in the appropriate materials based upon their format:

Albumen Prints mounted on board.

These nineteenth century photographs were glued to card or pulp board. The high acidity in the boards caused brittleness, cracks along the edges or broken corners. These matted photographs were placed in acid free envelopes with a piece of low-lignin board, slightly larger than the mount, behind it for support.

Silver Gelatin Prints (B/W).

These photographs were placed directly into paper enclosures (envelopes). The paper is pH neutral and alkaline/buffered.

Other

The cabinet cards, collodian print and modern photo process were also stored in self-locking polyester sleeves.

Very large mounted photographs (>10" x 12") are placed flat in drop-front storage boxes with interleaving sheets slightly smaller than the prints so that they cover the image but not project beyond the edges.

The rest of the collection was also housed in drop front acid free storage boxes.

COPYRIGHT AND FAIR USE

The photographs were owned originally by either the S. D. Warren Paper Mill Company or the Warren Family. When they brought over to the library, no written document was drawn up stating donor or ownership. After some investigative work, it was determined that the photos were brought over by Howard Stevens, a mill employee and husband of Ruth Stevens, assistant librarian from 1959 to 1982. The photographs were brought over sometime between 1959 and 1963. However, although these were gifts, there was not clear policy or statement as to copyright. Photographs that were taken before 1923 were public domain, but

since the company was still in existence, we wanted to make sure there would be no conflict before uploading those images on the web.

You must ask yourself these questions:

“Does the library have the right to use this on their website?”

“When was the photograph it created?”

“Who owns the photograph?”

“Were any of the photographs published, and if so, when?”

(See Appendix B for Copyright laws)

I contacted Ms. Brianna K. O'Regan, Manager of Intellectual Property at the S.D. Warren Paper Mill and invited her to see the collection and discuss the library's project of making them available online and my concerns about copyright. After our meeting, Ms. O'Regan did some research and stated her findings via formal letter (***see Appendix C***) that the photographs were most likely originally owned by the mill or the Warren Family. However, they were given to the Warren memorial Library and any copyright in the photographs has long since expired. Therefore, the S. D. Warren Paper Mill felt that we had a right to ownership and could use the photographs as we saw fit.

Once the issue of copyright was resolved, our next step was to establish policies concerning access and copyright information. A disclaimer was used for the website stating that access to these images is provided for the personal use of staff and patrons (students, local historians, scholars, etc.). However, any publication or commercial use without written consent of the Warren Memorial Library was strictly prohibited. Because the image print quality is low, output quality is less than perfect. Publishers would have to contact the library and pay a fee to receive a high quality output image. We felt we could offer this type of service. We then developed a fair use and copy policy (***see Appendix D***) that would benefit both the library and the patron.

All photographic prints that are made available to patrons through our copying services will be stamped with the library's logo, the name of the collection, the image or file number and the photographers name, if known.

DETERMINING WHAT TO SCAN FOR INTERNET

The Criteria • 1997

The Warren Memorial Library serves a community of 16,500 people in Westbrook with additional service to neighboring communities such as Portland, Windham, Gorham, Standish, South Portland and Scarborough. Most residents in Westbrook have or had relatives who worked for S. D. Warren Paper Mill or they themselves work at the mill. Because the older photographs were in varying stages of deterioration, removing them from their envelopes was a cause for concern. A decision was made to scan these historical photographs and place them on the web.

At that time, we wanted to create a digital copy of these 65 images in sufficient quality that they could be used for ready reference in lieu of casual browsing through the original sources. Although preservation goals could be met by this, we also were aware that because of limited storage space, large format/high quality images could not be produced. We settled for low resolution that was compatible with website sharing. This also allowed images to upload quickly on our webpage thus saving time. Because the files were between 2.5 to 3.5 MB, we were able to store all 65 images in three 100 meg zip disks, which were available in 1997. 250 meg zip disk were made available a year later. We also kept copies of the scanned images on computer hard drive. Rewritable CD-ROM and DVD-ROM were not made available until a few years later.

SCANNING THE PHOTOGRAPHS

Hardware & Software • 1997

Although a variety of operating systems and platforms exist that can do digital work, I find the Macintosh computer more suited for this type of work. In 1995, The Gardner Group, a national consulting firm that provides services to corporate America and larger educational institutions, released an independent study that concluded the Macintosh was at 25% cheaper to support than the Windows platform. It's operating system, exclusively owned by Apple, is equipped as a multimedia machine with sound input/output and sophisticated graphic features. Because its operating architecture is different from PC's, it is also faster. Translated that means just about any Macintosh can do the type of digital work I am discussing here.

We used a PowerComputing's PowerCenter Pro 180 Mhz Mac OS 8.6 with 1.2 GB hard drive and internal 100 meg zip drive. The scanner was an HP ScanJet IICX flat bed scanner, and the software used for scanning was Desksan II. The image is placed in Photoshop for touchup. **(See Appendix E for Scanning Instructions)**

CONSTRUCTING THE S.D. WARREN DIGITAL PROJECT WEB SITE

The S. D. Warren Photographic Collection

<http://users.rcn.com/warren.javanet/SDWarrenPhoto.html>


Out of the 65 photographs scanned, we chose 52 to be placed on our site. This website was designed using Adobe PageMill 2.0.

We knew that this site would evolve over time so it was considered a "work in progress." Being new to the idea of digitizing images and placing them on the web, we anticipated changes based on patron feedback. This would allow us to update links and work on style and design. What was important is deciding what we would include on the site. We wanted to include same information we had on our catalog record on the site. That meant including title, format, photographer, date, description, photo/item number.

We included a brief biographical sketch of S.D. Warren and had links to our Copyright and Fair Use policies.

S. D. Warren Paper Mill Photograph Collection

CONTENTS OF COLLECITON



The collection features photographs of the [Samuel Dennis Warren](#) Paper Mill and its employees from 1880 to approximately 1950. The collection consists of mostly images of the exterior mill building, mill workers and employees, machinery and mill events. There are approximately 200 photographs in all and are mostly albumen prints and gelatin silver prints. There is one cabinet cards and one collodian print.

The photographs were given to the Warren Memorial Library by mill employees whose spouses worked at the library. The photographs were initially stored in boxes and drawers throughout the library.

Through an ongoing project, the Warren Library is rehouses these photographs in polyethylene sleeves and placed in acid free folders. These folders are then placed in acid free storage boxes.

The digital images you are about to see consists of 52 photographs from the collection. The criteria used to make the selection was photographic quality, intrinsic value and historical content. The photographs are categorized by subject:

- [Building](#)
- [Events](#)
- [Machinery](#)
- [People](#)
- [People at work](#)
- [Power Station](#)

Revised March 23, 1999

[Access and Fair Use Policy](#)

[Return to Archives and Special Collections](#)

Each link brought the viewer to a site with photographs of that particular category. Included information:

- Title
- Date
- Item Number
- Photographer
- Size
- Process
- Mounting Data
- Description

S. D. Warren Paper Mill Photograph Collection

SUBJECT HEADING: PEOPLE

For reference use only.

Commercial use or publication is strictly prohibited without written permission from Warren Memorial Library.

[See Access and Fair Use Policy](#)

Title: S. D. Warren Mill Workers
Date: 1882

Item No. SDW018.1
Photographer: Unknown
Size: 25 x 19 cm.
Process: Albumen Print
Mounting Data: Mounted on 35 x 28 cm. card

Description: "1882 S. D. Warren Co."
printed on back. This picture at the
mill in 1882 and includes mill agent,
superintendent, foremen and office workers.
Seated at left to right: Edwin Ayer (Supt.),
John E. Warren (Mill Agent), Joseph Dumell.

**PROJECT OBJECTIVES 2004****Emerging Technologies and How its Changed our Mission**

After completing our digital project, scanning images was put on hold. With a small staff, limited funding and changing technologies, we felt uncomfortable continuing the project.

With 200 S.D. Warren Photographs, 800 Lantern Slides, 100 photographs of Westbrook History and 150 glass slides and canisters of 16mm film, digitizing our visual collection would require more funding and trained volunteers. Compound that with changing technology, a decision was made to put digital projects on hold. In the meantime, the S.D. Warren Photograph Collection for the web, small that it was, generated interest among patrons whose families were employed there and researchers who used photographs for their publications.

From Feb. 2002 to June 2003, the library was underwent a major renovation and expansion project. The building was shut down and 90% of the collection was stored at an off-site facility. Archives were also stored off-site. We set up a small temporary library branch until we were able to reopen. A new archives and bindery was part of the new renovations and we were anxious to get everything back in place.

Since 1997, digital technology grew while software and hardware became more multimedia friends. SCSI and Parallel ports became USB. 24 bit color scanners costing \$1300 were now under \$400 with up to 48-bit technology. Now you could purchase scanners that not only could scan 35mm slides, but glass negatives and lantern slides as well. Most all computers came with Photoshop LE and HTML editing program offered more flexibility. External

hard drives were more reasonable in price (\$150 for 70 GB) and rewritable CD-ROM and DVD-ROM became a staple among Macintosh computers.

Benchmark standards were set for digital collections when along came the Maine Memory Project (<http://www.mainememory.net/>). Out went our old MAC clone and in came an IMac. With added GB memory space and Rewritable CD-ROM and DVD-ROM, storing high quality large format images was simple. I discussed with Kathy Amoroso of the Maine Memory Project the idea of redefining our digital imaging project, only this time for true preservation and accessibility.

Because the original digital files of the 52 photographs from the Warren Collection were low resolution, we felt we needed to rescan them again at Hi-res. The question in mind to anyone who is reading this is:

Are you not repeating work you had done seven years ago? The answer is yes. With the knowledge and available technology, this was the best we could do.

If we scan sufficiently and correctly, then all we have to do is scan that image once. The high quality resolution image will allow us to use that image over and over again for future use—web design, online exhibitions, for publications and public relations. With a high quality image we can print the photograph in its original size (i.e. 8 x 10 or 10 x 13) and lose little or no detail or information. Although we have to rescan 52 images, it is only 52 images, not 1000.

We went back to our original project objectives and made the following changes and additions:

PROJECT OBJECTIVES 2003:

- To create an archival quality digital master scan for preservation as well as accommodating future needs and applications.
- To help create future online exhibition
- To explore various methods of image capture and conversion to digital format.
- To help increase access to underutilized visual materials of historically significant photographs via internet
- To develop copyright and fair use policies
- To explore other institutions who have pursued similar avenues.

SCANNING THE PHOTOGRAPHS - BENCHMARK Hardware & Software • 2003

Together with the renovation and expansion, budget money was set aside for new computers and digital equipment for the library and archives.

For our archives, we purchased an 800 MHz IMAC (OS 10.2) with rewritable CD-ROM and DVD-ROM, 256 Mb Ram memory and 60 GB external hard drive.

(approx. \$1,250). The computer also had AirPort installed for wireless connectivity.

We purchased an EPSON Perfection 3200 Pro Scanner 48 Bit USB with the ability to scan photographs, 35mm slides, lantern slides and glass slides. (\$575).

The software Photoshop LE came with the computer so this is the program we used to scan our photographs.

We followed Maine Memory Networks Benchmark standards:

Photographs must be scanned to print at 300dpi (dots per inch).

File formats would .jpg

File size for high quality color digital scans: 40.5 MB

File size for high quality black & white digital scans: 13.3 MB

The large file sizes will ensure printable output up to 11" x 14" without losing information. This is not to replace the original. The original is stored in archives and handling of these fragile images are protected by providing these digital images in lieu of the originals with the understanding that part of the reason we preserve the originals because of their evidential value. **(see Appendix E for Revised Scanning Procedures, 2003).**

There are a number of reasons why we chose to produce high quality digital images:

- These images provide us with unedited, information rich files that closely represent the original
- High quality digital images reduces the need to rescan (remember, we had to rescan all 52 low resolution scanned images!)
- A high quality digital image is rich in information to accommodate most future needs and applications such as online exhibitions, publications and public relations work.

Technical standards followed were established by "Maine Memory." This produced the highest quality scan that became our master scan image:

- Printable color scans should be 40.5 to 52 MB opened.
- B/W (grayscale) photographs should be scanned as color and be between 13.5 and 14.5 MG opened.
- All files should be JPG format with minimal compression
- Bit depth should be 24 bits for color images
- Color images should be RGB format, not CMYK

Image quality Benchmarks established by "Maine Memory" and followed by the Warren Memorial Library as:

- Color and tonal range should convey the same appearance of the original document.
- Color and total range assessment is highly subjective and varies according to the viewing environment and characteristics of each monitor

- Any street signs or text in a scan should be as legible as in the original image when the scan is viewed at 100%

VENDOR SUPPORT – MAINE MEMORY PROJECT

Since Maine Memory's inception in 2001, we are finding that their database can hold our entire Lantern Slide collection. We have a partnership with them that allows us to digitize our lantern slides and upload them to their website. This partnership is making it possible for the State of Maine access to our collections. Copyright and Fair Use are all handled under Maine Memory Network and cataloging can be done by us or by them. It is a nice partnership with technology support.

We understand the importance of collaboration but also understand that certain institutions must take responsibility for their collections.