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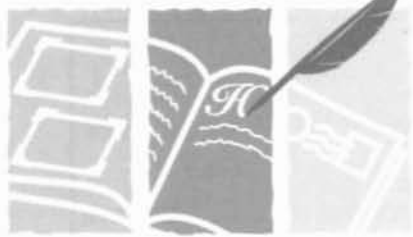
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The Joint Archives *Quarterly*

Volume 8 Number 3

Winter 1998

The History, Care and Handling of Photographic Materials

by Tanya Zanish-Belcher

The impact of the invention of photography on American history and culture cannot be overestimated. Today the majority of Americans use a camera with ease, taking hundreds of snapshots in a year. Prior to the development of Kodak, however, photographs were reserved for special one-of-a-kind situations and produced rare and unique images.

The first photographs were developed when experimenters noticed the sensitivity of silver compounds to light. Basically, all black and white photographs consist of the reactions of silver to light, and in modern photography to chemicals. Photography today (although this is being altered by digitization) relied on a negative from which paper prints can be made. The first photographs had no negatives and thus could not be easily reproduced - the negatives were part of the actual image.

The first practical photographic process¹ was invented by Frenchman Louis Daguerre in 1839 and resulted in

the daguerreotype. His invention was based on the work of Joseph Nicéphore Niépce who, interested in recreating lithographs, used a camera obscura to fix an image on stone (1824).²



Higgins Gallery, 1876.

A daguerreotype (1840-1855)³

consisted of a unique image on a thin layer of polished silver plated onto a copper plate. After being sensitized by chemicals, the plate was exposed, the image developed by mercury vapor and fixed permanently by other chemicals.⁴ The extremely delicate image, which resembles a mirror and can appear as a

negative or positive, was placed in a hinged case and covered with a brass mat and sheet of glass.

(Continued on page 3)

Editor's Note: Our thanks to Archival Products, a division of Library Binding Service, for permission to reprint this article. It appeared in the Summer 1997 issue of *News*, Vol. 5, No. 3.

Holland Museum Collection-Joint Archives

From the Director

Over the years we have answered many questions about the care and handling of historical photographs. At the Joint Archives of Holland we manage large numbers of photographic images, and we have been happy to help when we could in fielding inquiries. The story of our past is often most powerful when told through its pictures. It is the driving force behind the multitude of documentaries that you will find on television today.

This special issue is dedicated to helping answer some of your questions. I would encourage you to hang on to this issue of the *Quarterly* and use it as a reference tool whenever you need to properly identify, handle or store your precious visual memories. We are indebted to author Tanya Zanish-Belcher and the Archival Products Company, a division of the Library Binding Service, for permission to reprint this article. It originally appeared in their publication *News*, Vol. 5, No. 3.

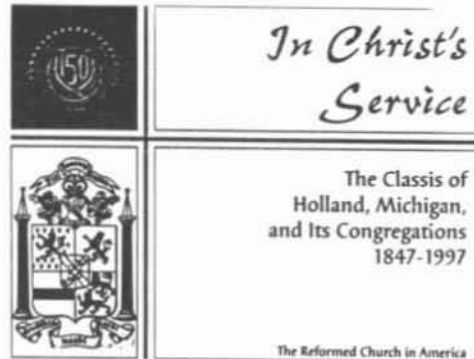
Working with photographic images is exciting and we find here at the Archives that they are in constant demand. This past fall even included visits by ABC News to produce an edition of *Biography*, a popular program on the Art and Entertainment (A&E) Network. A number of the editions of this popular show are produced by the "major" networks. Maura Minsky and cameraman Daniel Liss arrived from the New York offices of ABC News after quickly learning from Crystal Cathedral staff that a significant collection of materials documenting the life of Dr. Robert Schuller was housed in the Hope College and Western Seminary collections at the Joint Archives. Various members of the staff worked over several days to meet Maura's need of telling the story through the visual images housed here. A&E will feature Dr. Schuller on *Biography* sometime next spring, possibly around Easter.

We hope that you enjoy this special issue, and if you have any questions, please do not hesitate to call on us. If you should have images of the Holland area or know of collections of historical photographs that may become available, please give us a call at 395-7798.

Larry J. Wagenaar

The Story of Holland's RCA Churches

The history of Holland area churches is included in a publication recounting the past 150 years of service by congregations of Holland Classis of the Reformed Church in America. The 36-page booklet was released this year in conjunction with the City of Holland's sesquicentennial observance in 1998.

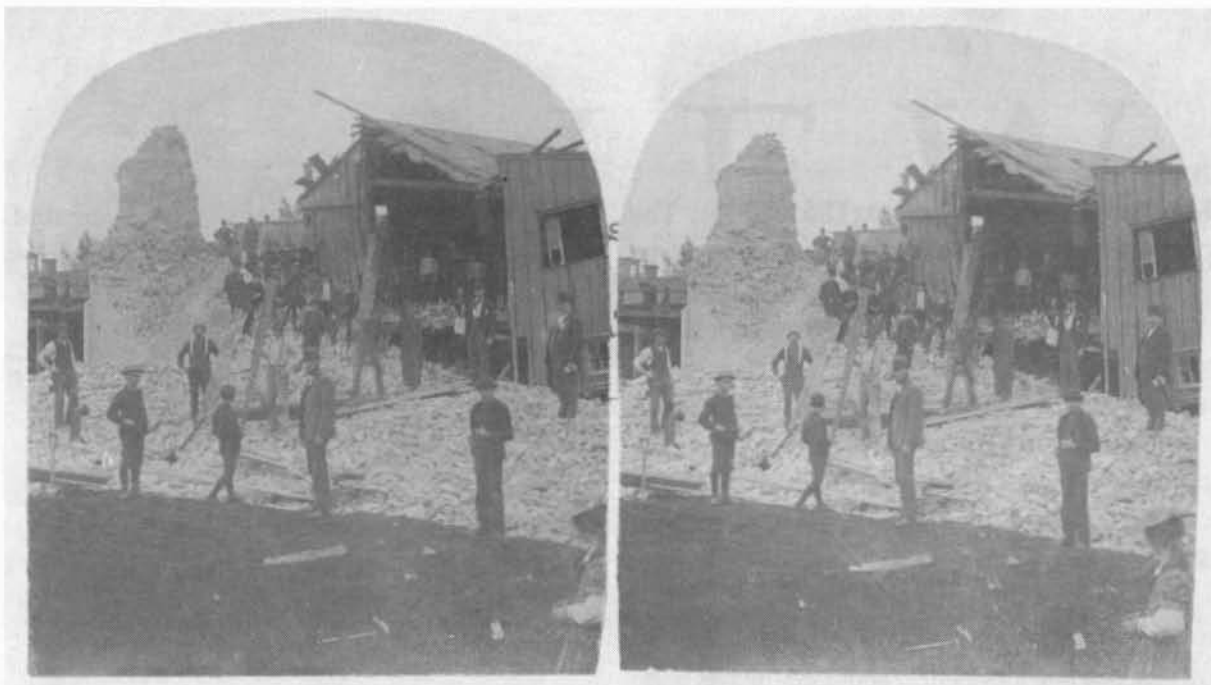


Besides histories and pictures of each of the 18 present and former churches of Holland Classis, the book features a time line showing historical events of the past 150 years throughout the world as well as the Classis.

Also included is an account of the development of women's societies in the Classis, written by Eloise Van Heest, and a brief history of the Classis by Elton Bruins, an authority of Reformed Church history who serves as director of the Van Raalte Institute for Historical Studies and chairman of the Classis Sesquicentennial Committee which planned and produced the booklet.

Others on the committee besides Bruins and Van Heest, are Gordon Beld, Pat Williams, Rev. Russell Norden, and Larry Wagenaar.

In Christ's Service: The Classis of Holland, Michigan and Its Congregations, 1847-1997 is available for \$5.95 at the Joint Archives, local bookstores, and Holland RCA churches.



Stereographic Card: Cappon-Bertsch Tannery explosion damage, nd.

Photographic Materials (continued from page 1)

Ambrotypes (1855-1860s) were the next development in the photographic process. The ambrotype image is a silver image in a collodion binder on glass. Collodion is a form of cellulose nitrate dissolved in ether and alcohol. The negative image produced is viewed as a positive image when the glass is backed by a dark material such as paper, paint or cloth. The ambrotype is usually placed in cases similar to the daguerreotype, but the image will appear as brown and milky white and will sometimes exhibit hand tinted highlights and flesh tones.⁵

Ambrotypes and daguerreotypes should never be touched directly, as the image could be damaged. They should be stored flat, in a protected acid and lignin free container and should be physically supported in storage and while being viewed.⁶ It is suggested that you not attempt to clean or remove them from their container without a conservator's help.

The Tintype or Ferrotype (1856-1920s) was also based on the collodion process, but the image was placed on a sheet of lacquered iron. The metal was painted dark brown or black, exposed, developed, fixed, and then varnished. The tintype was much cheaper and more durable than the earlier photographic processes and was very popular.⁷ The image, similar in tone to an ambrotype, was occasionally hand tinted and often encased in a paper holder or album.

Albumen Prints (1850-1895) are common in family collections. These prints consist of light sensitive silver salts in egg white on high quality papers. The photograph will have a purplish-brown hue and glossy surface, but for the most part, the egg white will have deteriorated giving the image an overall yellow tinge. Albumen prints can include:

Carte-de-visites (1860s): These small portrait cards were about the size of a calling card or present day business card. The sitter is often seated or standing, but shown full length. "CDVs" were extremely popular and cheap and thousands were printed daily. The photographer is often listed on the backside.

Carte-de-visites (1870s): "CDVs" from the 1870s have thicker mounts and more elaborate ornamentation. The sitter is usually shown much closer.

Cabinet Cards (1870s-1890s): Cabinet cards were larger with thicker mounts and rounded corners. These cards were also usually marked with the name and address of the photographer.

Stereograph Cards (1851-1935): Stereographs or stereo cards are a pair of photographs placed side by side on cards. View through a hand-held stereoscope, the single pictures looks three dimensional.

Negatives

Collodion “wet plate” negatives (1851-1880): The collodion emulsion used in the creation of the ambrotype and tintype was also used to make glass plate negatives from which prints could be made. The exposure had to be completed while the collodion was still wet, hence the name “wet plate.” The negative image will appear as a milky brown and there may be evidence in the corner that a clamp was used during the spreading of the collodion on the plate. Sometimes the glass will appear hand cut.

Gelatin “dry plate” negative (1880-1920): The more convenient method of “dry plates” replaced the wet plate negative. Gelatin, which could be exposed when dry, replaced collodion in the emulsion. The gelatin plate looks uniform and the glass machine cut.

Film based negatives (1889-present): Photographers eventually began coating gelatin emulsions on plastics such as nitro-cellulose (nitrate), cellulose acetate (safety), and polyester. In addition to photographic negatives, these materials were also used in the motion picture industry.

Nitrate negatives (1889-1939 and later) are extremely flammable and should be reproduced as soon as possible with the original being discarded.

Acetate negatives (1939-present) also known as safety film, frequently deteriorate by the emulsion pulling away from the base and produce a vinegar smell.

Printing out papers (1890-1920): Gelatin and collodion printing out papers replaced albumen paper as the dominant print material in the 1890s. The paper was exposed in contact with a negative to either sunlight or artificial light. The images have an additional support layer and are a very glossy purple-brown color. The most commonly encountered format are the studio portrait cabinet cards from the 1880s-1890s.

Developing out papers (1885-present): One of the most important developments in the history of photography was the creation of a negative/print system where the print could be developed at a later time than the actual exposure of the negative. This is still the dominant method of photographic production today.

Gelatin silver prints appear glossy and neutral black in color. The works of Ansel Adams provide an excellent example.



Cabinet Card, c. 1880.

Lantern slides (1850-1930/1940s): A glass positive transparency sandwiched between two pieces of glass was used for viewing by projection, especially popular in the early 1900s.

Color photographs⁸ : Color photographs differ from silver prints in that the image consists of dyes (cyan, magenta, and yellow) residing in the gelatin coating on a photograph base. Unlike the stable silver images, these dyes are susceptible to different rates of deterioration either when exposed to light or stored in the dark.

Color prints (1942-present): The majority of color prints are chromogenic prints that have poor stability in light and dark storage. The color development of these images is “coupled” with the chemical reaction of a silver halide emulsion, which is later bleached out. After 1969 all chromogenic prints have included a polyethylene coated support that feels slippery. Examples from the 1970s may have yellow staining around the edges.

Color negatives and transparencies (1905-present):

The dye stability of color negatives and slides has varied greatly with deterioration in storage in both light and dark. Careful handling and storage as well as the quality of the film will determine the longevity of the image (see Wilhelm).

Polaroids (1947-present): These images started out as black and whites, but the color images became extremely popular in the 1960s and 1970s. Fairly poor dye stability and an early tendency to curl required cardboard support of these one-of-a-kind images.

Care and Handling of Visual Images: The care and handling of photographic images is fairly simple and straightforward. When working with photographs, always keep your work area clean. Always pick up negatives and photographs by their edges or use cotton gloves - your hands have oils that will stain the image and speed its deterioration.



Results of improper care

Photographs should not be placed in self-adhesive or magnetic photograph albums. They should be stored in acid-free albums, envelopes or acetate sleeves and placed in albums using acid-free photo corners. Scotch tape, glue, rubber bands, thumb tacks, or paper clips should not be used.

Do not display original photographs in direct sunlight (reproductions should be made and used for this

purpose); color photographs are particularly susceptible to fading and discoloration. Do not place glass directly on a photograph - use an acid-free mat to separate the two, as well as an acid-free backing when framing your photographs. Be extremely careful when photocopying photographs. Do not let them run through a copier. Do not write directly on photographs, especially with ink. Use a soft-leaded pencil and write on the reverse of the image, along the margins. Resin coated prints provide difficulty for storage but it is best to place them in sleeves with the identification on the storage container (just be sure the two are not separated). Identify who, where and when. Store your photographs in a sturdy box in a safe, dark and dry place. Do not store photographs in the attic, garage or cellar, or any humid, damp location with potential pests.

¹ Henry Fox Talbot in England was also developing a photographic process during this time period. Talbot invented a paper print system based on negatives but, due to restrictions on its use, photographers chose to utilize the daguerreotype.

² The camera obscura was a tool used by artists and others. Using a lens, it projected an image that could then be used as an aid in drawing.

³ Americans excelled at daguerreotyping and developed many memorable portraits. See *The American Daguerreotype* by F. and M. Reinhart. Athens: University of Georgia, 1981. All dates are approximate. Many photographers continued working with obsolete processes on their own.

⁴ American photographers also experimented a great deal with chemicals in order to improve their images. Since it is not always guaranteed that the chemicals used in a process were the ones listed, archivists, curators, and collectors must be extremely careful in attempting to clean or work with older images.

⁵ You will also see daguerreotypes with tinting.

⁶ One way to construct a physical support for viewing is to take a piece of form core and wrap it with numerous layers of acid-free tissue. This support can be used when handling all manner of glass negatives and prints.

⁷ The tintype became especially popular during the Civil War for it could be carried in a pocket (unlike glass) without breaking.

⁸ For additional information and suggested storage conditions for the preservation of color photographs, films, and slides, please see *The Permanence and Care of Color Photographs: Traditional and Digital Color Prints, Color Negatives, Slides, and Motion Pictures* by Henry Wilhelm (Preservation Publishing Company, 1993).

From the Collections Archivist

A brief description of two new collections ready for use by our researchers:

War Memorial Committee Records (T97-1472) 0.25 linear ft.

Includes the materials gathered in the creation of the 1997 Holland War Memorial monument dedicated to the men who died while serving in the Civil War, World War I, World War II, Korean Conflict, and the Vietnam Conflict and placed in the Veterans Circle in Centennial Park. Materials contain primary documents on microfilm, newspaper clippings, and governmental casualty lists dating from 1917 to 1997.

Louis H. Benes II Papers (W97-1227) 1.00 linear ft.

Papers consist of bound class notes from his Western Theological Seminary courses in the English Bible and Old Testament History, and correspondence relating to his years as editor of the *Church Herald* (1945-1974, including the "San Dimas Affair" and Federal Council). The "San Dimas Affair" involved a fraudulent investment bond scheme with the San Dimas Valley Community Drive-In Church. Correspondence received when he retired includes very warm, respectful letters from his children. Also, copies of lectures given and his great grandfather's hymnal, 1846 (Dutch). Correspondents include Albertus Pieters and Gordon Van Wylen.

Geoffrey D. Reynolds

Hours:

Monday-Friday
9:00 a.m. to 5:00 p.m.

Located on the lower level
of the Van Wylen Library
10th & College

Oral History Project Surpasses Goal of 150 Stories for Sesquicentennial

The Joint Archives of Holland has surpassed the goal for its Sesquicentennial oral history project, "150 Stories for 150 Years," by so much that the city could even have been nearly two decades older.

The effort will have gathered more than 165 stories, according to Larry Wagenaar, who is the director of the Joint Archives and the project's coordinator. The total meets the project's goal of gathering 150 accounts by the end of Holland's sesquicentennial year, but more importantly—Wagenaar believes—also represents a significant resource for the future.

"I think it's one of the most important legacies we're leaving for the future out of the Sesquicentennial," Wagenaar said. "Our goal has been to document life in Holland in the late 20th century," he said. "I really think that this project is going to be a heavily-used resource in the somewhat distant future. I often compare it to the Van Schelven papers."

In 1897, in conjunction with the city's 50th anniversary celebration, local historian Gerrit Van Schelven gathered speeches and other writings featuring insights from the city's settlers and early residents. It is a collection, Wagenaar said, that is drawn upon frequently.

"Without the Van Schelven Collection, we would know much less about the first 50 years in Holland," he said.

The "150 Stories for 150 Years" project has deliberately featured a diverse range of community residents, to assure that a variety of perspectives were chronicled, according to Wagenaar. They range in age and experience from young college students to octogenarians. They include well-known community leaders, as well as those familiar only to family and friends. There are newcomers to the city, and retirees who have been life-long area residents. The project sought to maintain gender balance, and to reflect Holland's ethnic diversity.

Each person was interviewed by either a trained volunteer or a member of the Joint Archives' professional

or student staff. The interview tapes are being transcribed—114 are complete so far—and the transcripts made available for public use.

According to Wagenaar, each interview discussed a standard set of topics to provide some common points of reference. Examples include first impressions of the city, involvement in the community, perceptions of local controversies and views of how the community has changed through the years. Those interviewed were also asked questions related to their experiences specifically.

The Joint Archives of Holland coordinates an oral history project every year, typically generating an average of about 20 transcripts annually. The sesquicentennial project began in the spring of 1996, and at 167 interviews has weighed in at four times the usual two-year total of 40. Each transcript is approximately 25 to 50 pages long.

Many of the interviews were conducted by current Hope students or recent graduates retained by the Joint Archives to manage the project during the summers: senior Tracy Bednarick of Cadillac in 1996, and 1997 graduate Ann Paeth of Columbus, Ohio, this past summer. Ena Brooks, a junior from Kalamazoo, conducted interviews this fall, as did Wagenaar and collections archivist and assistant professor Geoffrey Reynolds. Lori Trethewey, department secretary, handled many of the details throughout the project, including checking the completed transcripts for accuracy.

About 25 percent of the interviews were conducted by a group of some 20 volunteers who were coordinated by Marie Zingle of Holland. Volunteer John Maassen assisted the staff with transcription needs.

“The volunteer component of this project has been very significant,” Wagenaar said. It’s important to me that we’ve had the community involved, not only from the perspective of being interviewed, but in doing the interviews—and helping transcribe them.”

With the massive Sesquicentennial Oral History Project still in its final stages, Wagenaar isn’t quite ready to determine the oral history topic that the Joint Archives

will coordinate during the forthcoming summer of 1998. He does, however, have some thoughts for 50 years hence.

“With the Sesquicentennial project nearly complete, our collection of oral and written histories provides a solid look at the settlement from 1847 to the present day,” Wagenaar said. “I hope, when the city is celebrating its 200th anniversary in 2047, that they have the foresight to do a similar kind of thing.”

Sesquicentennial Calendars Clearance Price!

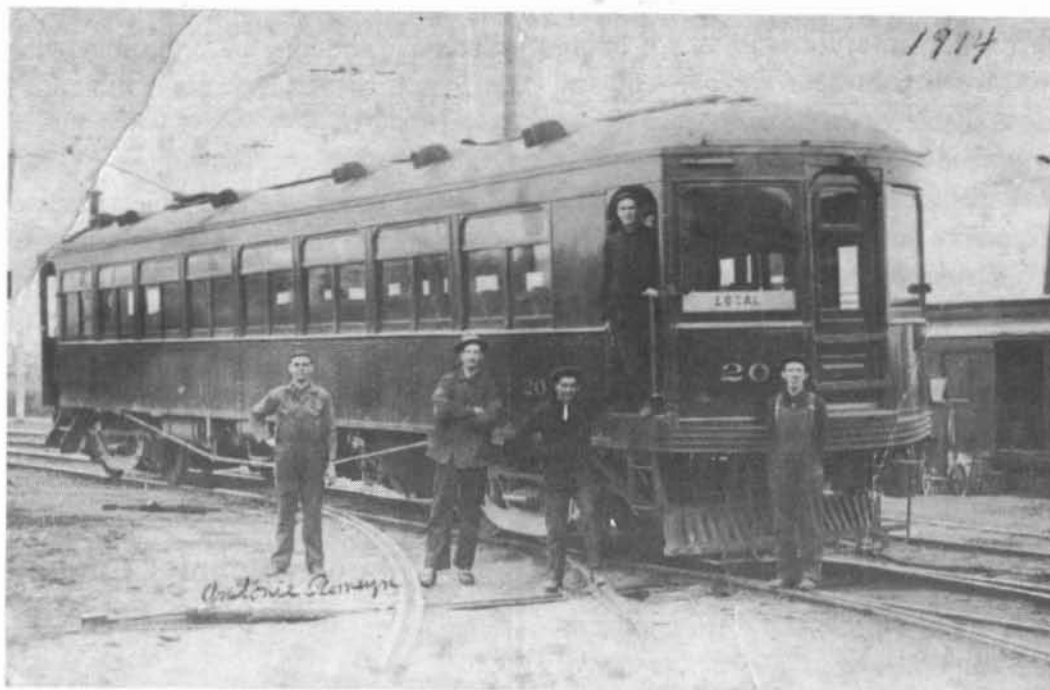
Own a piece of Sesquicentennial history! The perpetual Sesquicentennial Birthday Calendar is available for a special clearance price of \$2.99 (tax included). The original price for this calendar was \$12.95.



The Sesquicentennial Calendar features a timeline from 1847 to the present, a brief history of Holland, a message from the mayor, many historic photographs and the colorful Sesquicentennial logo on the cover.

Buy this special memory of the Holland Sesquicentennial while they last! Stop by the Joint Archives of Holland, located on the lower level of the Van Wylen Library

at 10th & College, Monday through Friday, 9:00 a.m. to 5:00 p.m. To order by mail, send a check for \$2.99 plus \$2.00 postage and handling to the Joint Archives, Hope College, P.O. Box 9000, Holland, MI 49422-9000.



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Postcard Photograph of the Holland Interurban, 1914.

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