



The Photogram

A Publication of the Michigan Photographic Historical Society

Volume 38 No. 4

A Michigan Non-Profit Corporation

February-March 2011

ISSN 1082-6874



A Box of American Candy. Color reconstruction by Bill Becker from Ives Projection Kromogram in the Wm. B. Becker Collection.

THE PHOTOGRAM is the official bulletin of the Michigan Photographic Historical Society (MiPHS). It is published five times a year. The contents are copyrighted the year of publication.

Copyright © 2011 MiPHS

THE PHOTOGRAM welcomes contributions to its pages from both MiPHS members and non-members. To submit an article, review, occasional photo ad (MiPHS members only) or informational item for publication, write to:

Janice Schimmelman
Department of Art and Art History
Oakland University
Rochester, MI 48309-4401
e-mail: schimmel@oakland.edu

Please include your e-mail address with all correspondence. Authors and advertisers are responsible for the accuracy of their contributions to *The Photogram*. The views of the authors do not necessarily reflect those of the Society.

SUBMISSION DEADLINES:

June 1 (July-Summer issue)
August 1 (September-October issue)
October 1 (November-December issue)
January 1 (February-March issue)
March 1 (April-May issue)

The MICHIGAN PHOTOGRAPHIC HISTORICAL SOCIETY is an organization dedicated to advancing an understanding and appreciation of the history of photography through membership meetings, special events and publications, and through shared endeavors with other organizations and the general public. The MiPHS is a 501(c)3 non-profit corporation chartered by the State of Michigan.

The MiPHS welcomes new members. Dues are \$35 per year (January 1- December 31), \$15 for students with valid ID. For information and application form, call 248.549.6026, visit us online at www.miphs.org or write to:

MiPHS
P.O. Box 2278
Birmingham, MI 48012-2278

BOARD OF DIRECTORS:

Cynthia Motzenbecker—President
Andee Seeger—President Emeritus
Doug Aikenhead—Treasurer
Doug Price—Secretary
Barbara Bauer—Member-at-Large
Dietmar Haenchen—Member-at-Large
Thomas Halsted—Member-at-Large
Carl Meyering—Member-at-Large
Leonard Walle—Member-at-Large
Janice Schimmelman—Editor, *The Photogram*

ADVISORS TO THE BOARD:

Nancy Barr and Elayne Gross

WWW.MIPHS.ORG Barbara Bauer—Webmaster

BILL BECKER TO SPEAK AT ANNUAL MiPHS DINNER ON APRIL 16

By popular demand (really — I was inclined to do something else) my talk at the dinner meeting will be “The 10 Most Influential Photographers of All Time.” Who were they? How were they chosen? Why do some of the most famous and talented photographers NOT make the list? This is an updated version of a talk I presented to PHSNE and the PHSC.
— BILL BECKER

Bill Becker is the founder and director of The American Museum of Photography (www.photographymuseum.com), an online museum that's visited thousands of times a day. He's taught History of Photography at the University of Illinois and lectured on photo-history topics at the DIA, the University of Michigan Art Museum, the Toledo Museum of Art, Boston University, Henry Ford Museum, George Eastman House, and the Southeast Museum of Photography. Bill is also an Emmy-award winning television writer and producer, a long-time member of MiPHS and a charter member the Daguerreian Society.

Saturday, APRIL 16, at the Birmingham Athletic Club, 4023 West Maple Road, Bloomfield Hills, MI. 6:00PM reception with cash bar, 7:00PM dinner followed by lecture; silent auction throughout the evening. **RESERVATIONS REQUIRED. PLEASE** make a donation to the SILENT AUCTION. Proceeds to benefit the educational programs of MiPHS. To make a donation call Cindy Motz @ 248.549.6026.

PHOTO-HISTORY CALENDAR

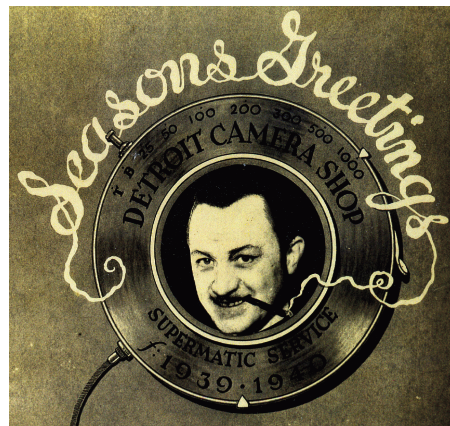
Through February 20: Michigan post-modern photographer Cynthia Grieg exhibits as 19th-century photographer Isabelle Raymond in the exhibition *Cynthia Grieg: Subverting the (un)Conventional*, Oakland University Art Gallery, Rochester, MI, www.oakland.edu/ouag

Through April 10: *An Intuitive Eye: André Kertész Photographs 1914-1969*, Detroit Institute of Arts, www.dia.org

March 13: DC Antique Photo Show, Holiday Inn Rosslyn, Arlington, VA, www.antiquephotoshow.com
March 17-20: AIPAD Photography Show, Park Avenue Armory, New York, www.aipad.com
March 19: New York Photo Show, At the Lighthouse, 111 East 59th Street, New York, www.usphotoshows.com
April 3: Michigan Antiquarian Book & Paper Show, Lansing, MI, www.curiousbooks.com
April 16: **MiPHS** – Annual Dinner and Lecture
Apr 30-May 1: PHSNE Photographica Sale & Show, Americal Civic Center, Wakefield, MA, www.phsne.org

WHO IS HE?

Dave Tinder would like to know if anyone recognizes the man in this photograph. He was the proprietor of the Detroit Camera Shop 70 years ago. If you have a suggestion, email Dave at tinder8@excite.com





An Ives Projection Kromogram, showing the three monochrome transparencies mounted side-by-side.

Projecting Color:

Frederic E. Ives and the Lantern Krōmskōp

Wm. B. Becker

More than a decade before the 1907 launch of the Lumiere Brothers' Autochrome process, the American inventor Frederic E. Ives produced dazzling full-color photographs with a system of his own design. Primarily sold in the US, Britain and France, the images of Ives' "Krōmskōp" represented a major step in the popularization of color photography.

The Krōmskōp* was available in three models. The most popular was a tabletop viewing device for stereoscopic color images, but Ives also offered a monocular version called the "Krōmskōp Junior," and the "Lantern Krōmskōp," a triple-headed projector. During 1900, Ives published several articles announcing the "Miniature Krōmskōp," a simplified model designed for smaller images on a single plate; it is unclear whether this version was ever commercially produced.

Projection is specified in Ives' first patent for color photography, "Composite Heliochromy," issued July 22, 1890 (#432,530). The patent notes that color photographic prints prepared with pigments could also be obtained; however, if such prints were ever produced it must have been on an experimental basis only.

Ives specified in his Composite Heliochromy patent:

Three photographs are to be made from each subject, to be reproduced in such a manner that each photograph represents by its light and shade the degree to which light coming from different portions of the subject excites a single primary color sensation in the eye. These three photographs are then to be projected simultaneously upon a screen, each by light which excites only the primary color sensation which it represents and in such manner that the three colored images are exactly super-imposed and combined to appear as one picture, which should produce exactly the appearance of the object photographed, both as to light and shade and color.

*Ives' preferred spelling, with dashes above each "o", signifying those letters are to be pronounced as in the word "go."

So . . . to make one of Ives' color images, a photographer would utilize three black-and-white transparencies taken behind red, green, and blue filters. Those transparencies would be projected simultaneously behind the same filters, combining on the screen into one harmonious natural color photograph.

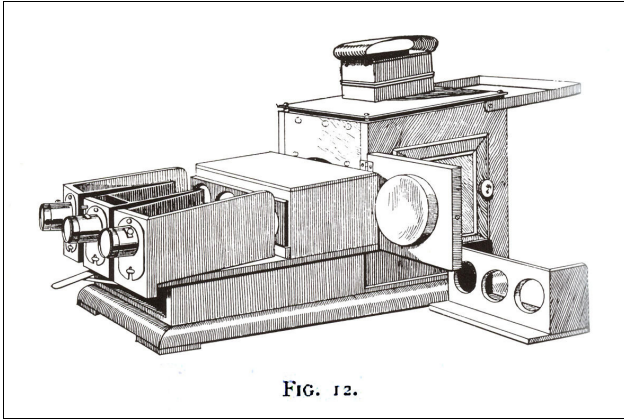


FIG. 12.

Diagram of Ives Lantern Krömskōp from Frederic Ives, *Krömskōp Color Photography* (London, 1898), 28.

This approach was not entirely novel. In fact, on May 17, 1861, the Scottish physicist James Clerk Maxwell (1831-1879) first demonstrated how full-color images might be created by projecting transparencies taken behind three primary color filters -- producing a now-famous photograph of a tartan ribbon. The eminent photographic historian Josef Maria Eder credits Maxwell with being "the first to prove the possibility of reproducing colors by photographic three-color negatives made through color filters."¹ However, the success of this experiment was limited by the photographic materials of the day, which were generally sensitive only to blue and ultraviolet light. Maxwell's own account of the tartan ribbon demonstration concedes,

a coloured image was seen, which, if the red and green images had been as fully photographed as the blue, would have been a truly-coloured image of the ribbon. By finding photographic materials more sensitive to the less refrangible rays, the representation of the colours of objects might be greatly improved.²

Maxwell's color photographic projection was conceived as a means of demonstrating the workings of color vision; once this objective was accomplished, he apparently made no efforts to develop the concept into a practical method of color photography.

Ives knew that panchromatic negative emulsions, sensitive to a wide range of colors, were vital to the production of effective color photographs. Eder reports that "the first practical and successful color projection of three diapositives [transparencies] on a screen seems to have been made by the American Frederic Eugene Ives (who) projected at Philadelphia, in 1888 . . . three-color pictures by means of a triple projection lantern and three different diapositives [transparencies], backed with red, green, and violet glass. This public demonstration is reported in the *Journal of the Franklin Institute*.³

The Lantern Krömskōp was designed to be paired with an existing projector's light source, either electrical carbon-arc light or limelight. If limelight was utilized, Ives stated the maximum diameter of the projected image would be four feet; arc lighting would permit an image ten feet in diameter.

Some of the Lantern Krömskōps were used to entertain public audiences in the popular slide lectures known as magic lantern shows. The Lantern Krömskōp, and a specialized projector Ives called the "Popular Science Lantern," were also used by educators to demonstrate the theory of color vision.

Ives patented a three-color camera (1891) and the viewing devices (1894) that he marketed under the Krömskōp label. Dedicated photographers could make their own "Kromograms" for viewing, using one of the specialized cameras. More often, the views seen in a Krömskōp were stock images sold by Ives and his associated companies. The available images were mostly still-lives or landscapes devoid of people. Lengthy exposure times were to blame -- a minute or more for sunny landscapes⁴ -- and any slight movement between frames could ruin the picture.

Six images were supplied with each of the triple-headed Lantern Krömskōps Ives sold. Each image is a black-bordered slide made from three nearly-identical positive black and white transparencies, mounted side-by-side.

Alignment of the images in either the Krömskōp or the Lantern Krömskōp required a series of delicate adjustments. All three of the primary color images needed to be precisely superimposed in order to create a full-color image without noticeable color fringes around people and objects. Differential aging of the component parts inside a Krömskōp may have magnified the challenge of achieving perfect alignment; viewing images with a Krömskōp today involves more than a little frustration -- interspersed with glimpses of rare beauty.

By 1893, Ives claimed his improvements and inventions had

First. Solved the problem of reproducing the natural colors by photography; Second. Simplified the procedure so much as to make it possible for any good photographic operator to make the photographs when supplied with the special camera even if he have no knowledge whatever of color science.⁵

An investigation by a committee of the Franklin Institute accepted Ives' claims and awarded him its gold Elliott Cresson medal in 1893. The Photographic Society of Philadelphia followed suit with a gold medal of its own.

Despite Ives' claim to have invented three-color cameras "which so greatly simplify the operation of the process as to make it quite possible to place it in the hands of even the press the button class of amateur photographers,"⁶ the Ives system was utilized by only a small number of amateurs and was never even a remote challenge to that other "press the button" firm of the time, The Eastman Company. Although Frederic Ives failed to touch off a color revolution in photography, his system was a technological marvel, and his images were among the first to explore the dazzling possibilities of natural color photography.



LEFT: *Still-life with Oranges, Grapes, Decanter and Glass*. Color reconstruction by Bill Becker from Projection Kromogram in the Wm. B. Becker Collection.

RIGHT: *A Butterfly*. Color reconstruction by Bill Becker from Projection Kromogram in the Collection of Mark Jacobs.



LEFT: *Japanese Fan*. Color reconstruction by Bill Becker from Projection Kromogram in the Collection of Mark Jacobs.

RIGHT: *Still-life with Artist's Paint Box, Palette, and Painting*. Color reconstruction by Bill Becker from Projection Kromogram in the Collection of Mark Jacobs.



TOP: Scan of a Projection Kromogram – note the differing grayscale values in the three images; these differences “encode” the color information. Scan by Mark Jacobs.

BOTTOM: *Vase of Flowers*. This image may have been the first color photograph produced commercially by Ives; a stereoscopic version in the collection of Museum Victoria, Melbourne, Australia, carries a printed label inscribed with the title and “No. 1.” Color reconstruction by Bill Becker from Projection Kromogram in the Wm. B. Becker Collection.



NOTES

1. Josef Maria Eder, *History of Photography*, trans. by Edward Epstean (New York: Dover Publications, Inc, 1978), 641.
2. J. Clerk Maxwell, “On the Theory of Three Primary Colours,” *Notes of the Proceedings at the Meetings of the Members of the Royal Institution of Great Britain* 3 (London, 1862): 374.
3. *The Journal of the Franklin Institute* (1889): 58, in Eder, 656.
4. Brian Coe, *Colour Photography: The First Hundred Years 1840-1940* (London: Ash & Grant, 1978), 41.
5. “Composite Heliochromy,” *The American Journal of Photography* (January 1894): 31.
6. Frederic E. Ives, “The Heliochromoscope,” *Journal of the Franklin Institute* 135 (January 1893): 35.

Wm. B. Becker is the founder of The American Museum of Photography, an award-winning online museum located at www.photographymuseum.com. He is the author of *Brady of Broadway*, a one-man play about Civil War-era photographer Mathew Brady. Bill Becker has curated or co-curated exhibitions at The Henry Ford Museum, Oakland University, the University of Illinois and the Southeast Museum of Photography. He’s a member of MiPHS and the Daguerreian Society. Bill would like to thank Mark Jacobs, collector and scholar of early color photography, for reviewing this article, making available his own considerable research on Ives, and for preparing the scans of the original Kromograms needed for the color reconstructions appearing here.



Samuel Bourne (1834-1912), *Darjeeling - Bridge Over the Rungoo*, 1860s, albumen, 9-1/4" x 11-3/8".
This is the best preserved of all the Bourne prints we have had and I like the subject very much.

From the Collection of MiPHS Member Howard Bond

In 1977, immobilized by a case of the flu, I finally read one of the photography history books I had accumulated. The thought came to me, "Wouldn't it be nice to own a photograph by each of the 19th-century photographers mentioned in this book?" Historic photographs were readily available then, mostly at low prices, and we came close to achieving that goal. Later, the goal shifted to having a print by as many 19th-century photographers as possible – ultimately about 2,500 prints, counting those in albums, by 225 identified photographers.

Helmut Gernsheim's huge book, *The History of Photography 1685-1914*, which seemed essential for a collector of 19th-century photographs, was out of print, but Tom Halsted found us a used copy. After nearly wearing out the book, I was surprised to find Gernsheim still alive in the 1980s, and he subsequently bought 37 of my own photographs.

Eventually, concerns about storage and the possibility of a fire caused us to donate most of the collection to museums, but we retained a few favorites that were too good to part with. This issue of *The Photogram* shows a few of them.

Howard Bond's photographs are in two books, 23 limited edition portfolios of prints, and more than 30 museums in the U.S. and Europe. The Michigan Council for the Arts awarded him a Creative Artist Grant in 1985, the year he became a contributing editor to *Photo Techniques* magazine. Since 1974, over 2,500 photographers from 5 continents have attended his workshops.



Frank Sutcliffe (1853-1941), *Farmyard*, carbon print, 9-1/2" x 11-3/4". This is so romantic it's almost humorous. Sutcliffe's prints are usually slightly larger than 5 x 7 and signed in the negative. This larger one is signed in pencil on the print.



Charles Scowen, *Banyan Tree, Ceylon*, c. 1880, albumen, 8 1/2 x 10 7/8 inches.