



Article: The Hand-Coloring and Retouching of Photographic Prints: An Annotated Bibliography

Author(s): Sarah S. Wagner, Monique Fisher and Clara von Waldthausen

Topics in Photographic Preservation, Volume 9.

Pages: 118-126

Compiler: Sarah S. Wagner

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The Hand-Coloring and Retouching of Photographic Prints: An Annotated Bibliography

Prepared for the Mellon Collaborative Workshop
Finishing Photographs: Materials and Techniques for Retouching, Hand-Coloring, Coating & Presentation
The Metropolitan Museum of Art, June 25-28, 2001

Compiled by Sarah S. Wagner
Including Excerpts from Previously Unpublished Bibliographies by
Monique Fisher (1994) primary contributor¹, Clara von Waldthausen (2001)², Nancy Pollack (1989)³,
with contributions by Lyzanne Gann⁴ and Constance McCabe⁵

Adamson, J. Spencer. **Retouching and Finishing for Photographers**. London: Pitman & Sons Ltd, 1935.

'Spotting refers to retouching, finishing to 'working-up' in monochrome or color. "Spotting is practically confined to water colors, although powder colour and pencils, or crayons, may be used. Simplest color finishing done with aniline dyes, powdered pastel. The best work is executed in water color, oil, or wax." For carbons " there is nothing better than the special pans of carbon spotting colours, as they are made up of the actual pigments of which the prints are composed." Lists specific watercolors, commercial oils (Marshall's, Kodak) and aniline dyes (artist's grade is less fugitive). Water color best on matte surfaced prints and carbons, need more gum added for glossy prints (or add more retouching medium as used prior to pencil work). Specific techniques for coloring and set up. Airbrush has replaced traditional hatching and stippling. Powder colors (Winsor and Newton) are a good substitute for airbrush work. Water colors best on matte paper, especially sepia toned. For powder colors, glossy prints are unsuitable; matte and semi-matte gelatin must be treated with pumice, and matte collodion and platinums do not require surface preparation. Fix with steam or airbrush (water). Aniline dyes work best on gelatin POP--very transparent, apply weak and buildup, or run water over to remove excess (unmounted, unhardened prints only) and blot. Dyes wash off like watercolors on matte collodions. No prep of surface for dyes coloring with POP, bromides, matte collodions or platinums; dampen surface of semi-matte or glossy prints prior to use of dyes. For glossy collodions, varnish with artists gum to prepare surface. Raffaelli's 1903 recipe for 'pencils of paint' (derivation of encaustic and pastel) was medium mixed for use with powders or oil. Detailed procedures for oil coloring, especially prints transferred to canvas.

Airey, Theresa. *Hand-Coloring Photographs. Darkroom & Creative Camera Techniques*. Nov./Dec., 1993: 28-29.¹

The Art of Projection and Complete Magic Lantern Manual. E.A.Beckett Publishers, London. 1893; p. 145-153.⁴

Barhydt, J. A. **Crayon Portraiture, Complete Instructions for Making Crayon Portraits on Crayon Paper and on Platinum, Silver and Bromide Enlargements**. New York: The Baker and Taylor Co., 1890.

Recommends Steinbach paper (free of deleterious animal sizing) for free hand crayon portraits and for coloring solar enlargements. Materials include Conte Crayons (No. 0,1), Siberian Lead Pencils, Velour Crayons, Peerless Crayon Sauce (F.W. Devoe Co., ground up No. 1 and black Conte), Black Conte Crayon Sauce, White Crayon, stumps tortillons, pumice etc. Crayon Sauce is applied with fingers, tortillons or stumps. Description of making photo, mounting. Free hand technique uses copy print as guide rather than working over an image directly. Method of using pumice powder after the colors have been rubbed into the surface to get proper grain and stippling effect. Silver and platinum enlargements are printed light for coloring, while bromide enlargements are printed to desired tone (surface takes color less, lighter coloring used, image must be

stronger). Make highlights or reduce excess with erasers, knife etc., scrape down for pure whites through gelatin layer. Transparent liquid watercolors (aniline dyes?) also used (for details).

Blacklow, Laura. **New Dimensions in Photo Imaging**. Stoneham, MA. Focal Press. 1989. Pp. 12-19.⁴

British Journal of Photography, in chronological order from 1874-75:

Perkins, Henry S. *Photographic Colouring*. **British Journal of Photography** Vol. XXI. No. 763, December 19, 1874; pp. 600-601.²

Colouring is now universally employed in connection with photography. Many of the largest houses depend on colouring as their chief sources of income. Talks of the popularity that enlargements are gaining.

Sutton, Thomas, *Correspondence. The New French Process of Colouring Paper Portraits in Oil and Mr. Duppa's Patent for the Same* **British Journal of Photography** Vol. XXI. No. 724, March 13, 1874; p.129.²

Oleography. Rendering photograph transparent and coloring in the back. Same as Duppa's patent for using the German method of coloring lithographs and etchings, only now in France and twenty years later.

Tinting Photographs 1875h. **British Journal of Photography** Vol. XXII. No. 777, March 26, 1875; p. 145.²

Mr. W.E. Debenham's method: take gelatinous substance (a few are named) add alum and mix at least 50% alcohol. The alcohol will prevent pigments from running and is most crucial.

New Method of Colouring and Mounting Photographic Pictures. **British Journal of Photography** Vol. XXII. No. 793, July 16, 1875; p.341.²

Adolphe Henri Braun of Paris and his patent for colouring. Consists of semi-transparent paper as a support for carbon pictures, and the mounting of such a picture when coloured on canvas or other suitable material which will imitate an oil painting.

Burrows and Colton, rev. by J.P. Ourdan. **The Art of Retouching**. New York: E. & H.T. Anthony & Co., 1880.

Enamelled prints (French method coated with gelatin dried against glass) hard to color. Can add extra gum to water colors and wax print, or add mix with albumen and apply before enameling, or apply matte varnish overall after coloring. Spot B/W prints with black, brown, rose madder and neutral tint. Encaustic paste formula (wax, copal, etc.) for polishing.

Coe, Brian. **Color Photography—the First Hundred Years**. London: Ash and grant, 1978.¹
The first chapter concentrates on hand-coloring of photographs.

Coke, Van Deren. **The Painter and the Photograph—from Delacroix to Warhol**. Albuquerque: University of New Mexico Press, 1964.¹
Pages 233-239 provide brief overview of hand-coloring.

Cooper, PF. **The Art of making & Coloring Ivorytypes, Photographs, Talbotypes and Miniature Painting on Ivory**. Philadelphia, PA: Cooper. 1863.¹

Dorskind, Cheryl Machat. **The Art of Handpainting Photographs**. New Frair, John and Birthney Ardoin. **Effective Photography**. Englewood Cliffs, NJ. Prentice Hall, Inc. 1982. Pp. 248-253.⁴

Gayer, John R. *Painting on a Photographic Substrate: Notes Regarding Materials and Techniques over the Past 100 Years*. **Preprints: Historical Painting Techniques, Materials and Studio Practice, University of Leiden Conference, June 1995**: (J. Paul Getty Publication).⁴

A synopsis of 19-20th C techniques, with emphasis on post 1950 materials and methods with photo linens and contemporary artists.^{SW}

Hasluck, Paul N., Ed. **The Book of Photography, Practical, Theoretical and Applied**. London: Cassell and Co. Ltd., 1907. Chapters: *Working-Up Prints and Enlargements in Monochrome* (pp325-336). and *Methods of Colouring Photographs* (pp 337-352).⁵

Lists spotting colors (solid water colors), oils and aniline dyes. Gum arabic medium for cake colors, also mentions albumen medium. Finishing enlargements with watercolors and brush, crayons and stumps, and the aerograph (airbrush). 'Gumming' of shadow areas for saturation. Bromide prints colored with crayons, powdered chalk, and airbrush, and special pencils. Treat surface with ink eraser, cuttlefish powder to reduce 'greasiness' and bite color. Colors listed for specific areas (face, hair, drapery, etc.). Pastels more fugitive. Fix with rice water, or steam followed by dilute isinglass solution, or commercial 'fixatif'.

Methods for working up carbons. Lists color that interact with other colors or with photographs (p352).^{SW}

Hendricks, Klaus B. and Sebastian Dobruskin. *The Conservation of Painted Photographs*. **Preprints of the 9th Triennial Meeting of ICOM (Dresden)**, 1990: 249-254.¹

Henisch, Heinz K. and Bridget A. Henisch. **The Painted Photograph 1839-1914; Origins, Techniques, Aspirations**. University Park, PA. The Pennsylvania State University Press. 1996.⁴

Jarman, A.J. *Fixing the Color of Powder-Tinted Prints*. **Bulletin of Photography**. Vol. XIV, No 337, Jan. 21, 1914:75.⁵

Use of powder colors to tint photographs, then fix the colors from the back by floating the print face up on a solution of gun cotton in alcohol and sulfuric ether until the solution penetrates to the front, then is removed and dried. Application to the front would 'spoil the print'.^{SW}

Johnson, Robert. **The Art of Retouching Negatives and Practical Directions On How to Finish and Color Photographic Enlargements, etc**. Boston: American Photographic Publishing Co., 1930. (Part II—Finishing and Coloring Photographs)

Water colors – lists non-fugitive colors; aniline dyes, oils, powder colors, tools (scrapers, hard typewriter eraser, etc.). Retouching pencils or black chalk (stipple blemishes in face), scraper to reduce dark spots. Airbrush common. Oil technique for carbons mounted on canvas—prime surface with starch/mixture and 'work up like painting' or faster use new faster "Russian Method" with transparent oils applied with cotton balls or swabs (Marshall's Transparent Oil Photo Colors or Roehrig's Photo Oil Colors). Mentions Conte Crayons (black and white) and Faber Castell Polychrome Pencils for detail work. Lamp black for regular black or gray bromides, carbons and platinum. Black burnt sienna used for sepia or brown prints, and Indian Red added for carbons. Airbrush and powder colors used almost exclusively. Prep surface with pumice powder before using powder colors (Winsor and Newton), ox-gall used only for very greasy surfaced prints and carbons. Rub powders in with finger or cotton swab, remove highlights with eraser tip, knife, art gum, and fix with airbrush (water and a few drops mucilage), steamer, or atomizer. Follow with brush work.

Jones, Bernard Edward. **Encyclopedia of Photography**. London: Cassell, 1911 (1974 reprint by Arno Press, New York of 1911 ed. Cassell's Cyclopaedia of Photography). *Colouring Photographs*, pp 132-134.

Mentions aniline dyes, water colors, and oils. Pre-treatment of prints with an ox-gall solution for oil and water colors, essential for albumen prints. Also, albumen/glycerine medium for use with water colors, especially for albumen prints and other glossy photos.

Journal of the Photographic Society of London, in chronological order 1854-1956:

Minotto, M. *Method of Colouring Photographic Pictures*. **Journal of the Photographic Society of London** Vol. II. No. 21, August 21, 1854; pp. 21-22.²

Varnishing the paper prior to coloring can also work. Recommends spirits of turpentine, mastic, Venice turpentine, powdered white glass, 7:1:3:10. Canada balsam dissolved in spirits of turpentine also works well.

Lock, S.R. *Colouring Photographs*. **Journal of the Photographic Society of London** Vol. II. No. 26, January 22, 1855; pp. 113-114.²

Method by Minotto no good. Only way to color is to use pure transparent colors - not of powder, chalks, or oil.

R.J. *Colouring Photographs in Oil*. **Journal of the Photographic Society of London** Vol. II. No. 39, February 21, 1856; p. 316²

Pass a clear varnish over portrait after processing. Paint with oil colour very sparingly, keeping shadows warm with a thin glazing of color.

Kodak Publications, in chronological order 1948-1987:

_____. **Retouching and Spotting Negatives and Prints**. Rochester, NY: Eastman Kodak Co., 1948.

Small booklet with focus on spotting with dyes and pencils.

_____. **Kodak Flexichrome Process**. Rochester, NY: Eastman Kodak Co., 1953.

Method of complex colorizing process for Kodak stripping films leaving a relief image with locally applied colors that replace the silver image in proportion to density.

_____. **Retouching Ektacolor Prints**. Rochester, NY: Eastman Kodak Co., 1963.

"Holes are extremely difficult to retouch." Use of solid dry dyes, opaque retouching, selective dye bleaching for removal of spots, Flexichrome Colors (9 color set mixed with diluted Stabilizer CP-5, water or anh. Alcohol fixed to moisture), soft pencils (Colorama by Eberhard-Faber), white opaque ((Pro or Permo), gray opaque airbrushed to mimic base color (Craftint or FRMiller). Use of lacquers for surface quality and protection. Techniques and methods.

Reed, Vilia. **Photographic Retouching**, Rochester, NY: Eastman Kodak Co., 1987.

In depth techniques for B/W prints and negatives, color prints including dye transfer, color transparencies, and traditional restoration of copy prints. Materials include various Kodak dyes (liquid and dry), colored pencils, oils and pastels, airbrush, lacquering, frisket toning, image bleaching, etc.

Lagoria, Georgianna. **Contemporary Hand-Colored Photographs**. Santa Clara, CA: De Saisset Museum, 1981.¹

Lock, S. R. *Colored Photographs*. Correspondence, **The Photographic and Fine Art Journal**. April 1855:111. ¹

Coloring of Calotypes and/or Talbotypes discussed.

Maclean, Hector. **Popular Photographic Printing Processes—A practical guide to printing with gelatino-chloride, artigue, platinotype, carbon, bromide, collodio-chloride, bichromated gum, and other sensitised papers.** . London, England. L. Upcott Gill. 1898. Pp. 148-154. ⁴

Specific treatments and methods. For example, Conte crayon work on bromide prints, recommends watercolor medium for bromides (oxgall, acetic acid, water, and rectified spirits solution). Suggests clear size as a coating prior to use of oils/megilp on bromides. Carbons are primed with starch with added gum prior to oils; or rubbed with India rubber, sponged with cold water and dried prior to using watercolors. Platinums are coated with weak parchment size prior to coloring. For glossy hardened gelatin chlorides, recommends J. Joe's procedure of coating and burnishing with an albumen solution, then using an albumen medium with watercolor. For watercolor on albumen prints, coat with isinglass solution or standard oxgall solution, or to avoid dull appearance use a gum medium (thick gum solution, with 6 drops glycerine and a filbert of camphor). For oils on albumen, prime with warm size. ^{SW}

Maddox, Brent. *Depictions of 19th Century Japan*. **Visual Resources Association Bulletin**, vol. 17, No. 4, Winter 1990:35-37. ¹

For the Japanese, hand-coloring was almost standard practice in studio and landscape photos, due to long tradition of colored wood block prints. Due to the popularity of multi-color woodblock-print shops, trained colorists were plentiful. Their water soluble tints had more transparency than the oils used in the West.

Mannheim, L.A. Ed., et al. **The Focal Encyclopedia of Photography**. New York: Focal Press, Inc. 1965.

Colour Prints, pp 282-284. Overview. Mentions transparent colours or dyes, oils, chemical toning with masks, and the Flexichrome process.

Marincola, Paula. **The Hand-Colored Photograph**. Philadelphia, PA: Philadelphia College of Art, 1979. ¹

Marshall, Lucille. **Photo Oil Coloring for Fun & Profit**. New York: John G. Marshall, 1944. ¹

Martin, Judy and Annie Colbeck. **Handtinting Photographs**. Cincinnati, Ohio: North Light Books, 1989. ¹

The most comprehensive book about hand-coloring techniques in the 1980s.

Maskel, Henry P. ed. **Photography**. London, England. Hutchinson & Co. 1911. ⁴

Miller, Jan Way. **Retouching Your Photographs**. New York: Watson-Guption Publications, 1986.

In depth techniques for B/W prints and negatives, color prints and negatives, and traditional restoration of copy prints. Materials include various Kodak dyes (liquid and dry), colored pencils, oils, pastels, airbrush, lacquering (overall after work or between corrections to maintain surface height and appearance of gloss.)

Newman, J. **Harmonious Coloring as Applied to Photographs**. London: Newman, 1863. ¹

Nettles, Bea. **Breaking the Rules: A Photomedia Cookbook**. Urbana, Ill: Inky Press Productions, 1987. ¹

Nutting, Wallace D. D.. **Wallace Nutting Pictures**. Framingham, MA: Wallace Nutting, 1912

Nutting, Wallace D. D.. **Photographic Art Secrets**. New York: Dodd Mead and Co. 1928

The Photographic Journal of America, in chronological order, 1915-1918.

Operator. *Preparing Varnishes for Negatives, Paper Prints, and Retouching Medium.*

The Photographic Journal of America. Vol. 52, No. 8, Aug. 1915: 393-394.⁵

Varnish recipe for gum dammar in carbon tetrachloride and benzine for coating/dipping prints prior to retouching.^{SW}

Godbold, A. Vernon. *A Wax medium and Process for the Permanent Coloring of Photographs*. **The Photographic Journal of America**. Vol. 55, No. 11, Nov. 1918: 516-518.⁵

A wax medium is proposed instead of oil/varnish. Improved recipe from 1917 formula printed in Br. J. Phot. White Wax (bleached beeswax or cera alba) mixed with lavender spike oil, primrose oil, gum elemi, turpentine. Medium used with powder colors or oils rubbed into the print.^{SW}

The Photographic News, in chronological order, 1858-1874:

Editor. *To Correspondents*. **Photographic News** Vol. I. No. 12, November 26, 1858; p. 144.²

Editor replies to Da Lucem that albumen stereograms can be colored if surface is coated with ox-gall.

_____. *Lessons on Colouring Photographs*. **Photographic News**. Vol. 1, 1859: 138, 162, 174, 186, 199, 208, 222, 234, 245, 258, 269, 281, 292, 302.¹

_____. *Lessons on Colouring Photographs*. **Photographic News**. Vol. 2, 1859: 5, 17, 29, 42, 51, 65, 75, 89, 100, 113, 125, 135, 149, 160.¹

Concentration on glass positives, albumen prints and discussion of painting with oils.

_____. *Hints to Colorists*. **The Photographic News**. Vol. 4, Nov. 16, 1860: 347¹

A medium for the use of oil colors: a fine powder of 1/2 oz gum animi and 1 oz of gum sandarach dissolved in spirits of wine, exposed to sun and filtered. Also varnish for the use of powder colors to create a 'biting' surface. Clausel's Encaustic Paste, a commercial product. Philosophy-use of harmonious color and the power of color.

A Stranger, *Colouring on Albumenized Paper*. Correspondence, **The Photographic News** Vol. 5, No. 146, June 21, 1861; p. 297.¹

Mix water colors with albumen solution so as not to impair glossy surface of print, and prevent colors from rubbing off when using dry colors.

_____. *Talk in the Studio*. **The Photographic News**. Vol. 7, May 22, 1863: 252¹

Collodion as a medium for dry colors on albumen prints. Techniques and materials for the hand-coloring of CDVs and other albumen prints.

Gulliver, Thomas. *Liquid Colors for Photographs*. **The Photographic News**. Vol. 7, Sept. 4, 1863: 431.¹

Complaints of fluid colors fading rapidly: "dealers should be a little more careful in introducing these sort of things without testing them..."

A Fruwirth, D., *Photographic Notes and Queries. Waterproof Colouring. Photographic News* Vol. 9. No. 336, February 10, 1865; p.71.²

1) Rub painted picture with wax and ether; 2) Glaze after painting.... Does not define glaze.

Grasshoff, Johannes. *On Painting in Water Colors. The Photographic News.* Vol. 13, April 30, 1869: 210-211 and vol. 13 May 7, 1869: 222-223.¹

_____. *Improvements in Coloring Photographs. The Photographic News.* Vol. 14, July 15, 1870:329¹

Use of collodion and oil varnish coatings with both water colors and oils on the same photograph. (patent to Robert Amber, San Francisco).

_____. *Coloring Photographs. The Photographic News.* Vol. 15, Dec. 1, 1871: 573¹
Questions whether photographs should be colored; whether photography is fine art.

Martin, James. *Hints on Coloring Photographs, The Photographic News.* Vol. 16, Dec. 27, 1872: 245-246.¹

Overview of experiences and techniques needed for hand-coloring.

Correspondent of the **English Mechanic.** *Coloring Photographs. The Photographic News,* vol. 18, June 5, 1874: 272-273.¹

The Photo Miniature, in chronological order 1899-1921:

Tennant, John A. Ed. *Coloring Stereograms. The Photo Miniature* Vol. I, April 1899-March 1900: 247-248. New York: Tennant and Ward.²

Tennant, John A. Ed. *Coloring Lantern Slides. The Photo Miniature* Vol. IV, Nov. 1902. New York: Tennant and Ward.²

Tennant, John A. Ed. *Coloring Pictures The Photo Miniature.* Vol. VII, Nov 1907: 500-539. New York: Tennant and Ward.²

Tennant, John A. Ed. *The Air Brush and the Photographer. The Photo Miniature,* Vol. XVI, No 181 March 1921: 1-40. New York: Tennant and Ward.

Description of the tool invented in 1886 by Liberty Walkup. Electrical air pumps, hand or foot air pumps and gas pressure used as air source (atomizers used previously). Lists supplies including 8-12 bottle set of airbrush colors, pencils, pumice, ammonia water, rubber cement and frisket, erasers, etc.. List of specific colors (p14). Prepare prints by rubbing with pumice powder, sponging with dilute ammonia or ox-gall solution. Always clean bromide prints with alcohol or one of the previous techniques. Airbrushing techniques described, as in roughing in broad colored areas, use of masks (rubber cement, frisket). After coloring, fix with artist's fixative (1 oz white shellac in 7 oz denatured wood alcohol), then rub down with cotton and waxing compound. Also mentions use of airbrush to coat gum bi-chromate papers (especially thin bond papers, onion skin, and Japanese tissue) as it requires less scrubbing, and color stays on surface where it does not deleteriously affect the paper core.

Root, Marcus Aurelius. **The Camera and the Pencil or the Heliographic Art.** Pawlett, VT: Helios, 1971 (reprint edition Philadelphia: M.A. Root, 1864).

Colorants and techniques the same as for miniature painting, carmine should be avoided as fugitive. Mount print with gelatin or clean glue. Varnish surface with 'Newman's Preparation' (undefined commercial product) which mixes with water then becomes insoluble upon drying. Can be used on salt and albumen where dry color would not 'bite' (adhere) to the surface. Hatching /stippling techniques (miniature techniques). Discusses enameling, or gelatinizing albumen prints. Mentions dry colors, including Newman's Colors, for albumen (glass and daguerreotypes)—dust on, blow off excess, and varnish. Oil and watercolor better for salt prints. Description of solar enlargements, pre-treatment of surface prior to pastel coloring with pumice or sepia powder, or coating overall with isinglass solution dusted afterwards with pumice or cuttlefish powders. Can also use drawing paper after removing size with warm water. Protect surface with glass. Elaborate oil technique described.

Ruggles, Mervyn. *A Study Paper Concerning Oil Paintings on a Photographic Base*. AIC Preprints, Baltimore Meeting, May 1983.³

Shultz, Frances. *Learning to Hand-Tint*. Shutterbug, May 1992

Use/technique for Marshall's Oils, mentions acrylic and felt tip pens as other colorants.

Snelling, H.H. and E. Anthony. **A Dictionary of Photographic Art & A Comprehensive and Systematic Catalogue of Photographic Apparatus and Materials, Manufactured, Imported and Sold**. New York: Arno Press, 1979.¹

A reprint of two publications, the second listing products including colors and box sets for coloring/tinting.

Stone, Jim. **Darkroom Dynamics—A guide to creative darkroom techniques**. Boston: Focal press, 1979.¹

Mentions Marshall's oils, acrylic paints, oil paints, felt tip marking pens, batik dyes or coffee for hand-coloring. Christopher James discusses method for making enameled print (p89-93).

Templeton & Wall. **The Guide to miniature Painting and Coloring Photographs**. London: George Rowney & Co., 12th ed., 1870s (?).¹

Tobias, J. Carroll. **The Art of Coloring Photographic Prints**. Boston: American photographic Publishing Co., 1934.¹

Towler, J. **The Silver Sunbeam**. New York: Joseph H. Ladd, Publisher, 1864. Reprinted Hastings-on Hudson, NY: Morgan and Morgan, 1969. (Section *On the Tinting and Coloring of Photographs* pp 224-231)

Mentions varnishing the surface with "Newman's preparation" (undefined commercial product). Provides mixtures of colors for flesh, hair, clothing, drapery, etc. using water colors and stippling/hatching application. Materials include ox-gall, varnish, gum arabic, gelatin, penetrating varnish, and various brushes, stumps, etc. Lists specific colors used most frequently, including mention of liquid aniline colors especially for albumen (no surface pretreatment required). Dry colors used for cased objects. For large photos, crayon style drawing better than stippling/crosshatching using cake colors (watercolors?), powders (pastels or Winsor and Newton Powder Colors?), liquids (aniline dyes), oils and crayons.

Urbino, L. B. et al. *Photograph Painting in Water Colors*. **Art Recreations: Being a Complete Guide to Painting**. Boston: J.E. Tilton & Co., 1869.¹

Wall, Alfred. **A Manual of Artistic Coloring as Applied to Photographs**. New York: Arno Press, 1973 (reprint from 1861).¹

Also reprinted and/or discussed in *The British Journal of Photography* Vol. 6 1859; vol. 7, 1860; vol. 8, 1861; and in *Humphrey's Journal* vol. 11, 1859; vol. 12, 1860; vol. 13, 1861. The book is the most comprehensive, and concentrates on glass plates, salted paper and albumen.

Wall, E.J, F.J. Mortimer Ed.. **The Dictionary of Photography**. Boston: American Photographic Publishing Co., 1937.

Colouring Photographs, pp 132-133. Pre-treat an alum hardened print with an ox-gall solution. Gum and glycerine medium, more gum to cover glossy or dark colored areas. Mentions pastels for matte prints, worked in dry then steamed to fix, or applied in a beeswax medium; and transparent colors thinned with turpentine and megilp; dyes and stains in liquid form, powder to mix, or dry leaves to remoisten (Kodak Velox colors) best for transparencies and lantern slides.

Wilson, Edward. **Carbon Manual**. New York, NY. Scovill Manufacturing Company. 1868. Pp. 67-68.⁴

Worswick, Clark. **Japan: Photographs, 1854-1905**. With an introduction by Jan Morris. New York: A. Knopf, 1979.¹

Brief history (p143) of the popularity of hand-colored photographs in Japan. Beautifully reproduced photographs.

_____. **Practical Guide to Photography**. London: Marion and Co., 1887.

Brief discussion of spotting prints (p202). "Water colors are used...the three most useful colors are India ink, sepia, and crimson flake. In fact with these three any desired shade can be got...and mixed...with a little gum-water or albumen and water..."