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## CLICHÉ-VERRE: DRAWING AND PHOTOGRAPHY

Kimberly Schenck

Cliché-verre is the widely accepted term describing a photographic print made from a "negative" in which the image has been executed primarily by hand and not through the lens of a camera.<sup>1</sup> The term, referring both to the process and final print, is confusing since its literal translation from French is glass negative which typically refers to a collodion or gelatin glass plate photographic negative. Other historic names include cliché-glace, dessin héliographique, autographie photographique, glass print, and photogenic etching. Clichés-verre differ by technical definition and artist's intent from other cameraless images or from hand-altered photographs in which the negative and/or print have been modified by hand. However, the distinction between these terms may be at times ambiguous, especially when characterizing contemporary prints combining unusual techniques.

Clichés-verre are made using any transparent support for the "negative" or matrix: glass plates, clear and frosted polyester and acetate films, plexiglas, and translucent papers, such as tracing, wax, and Japanese papers. Historically artists coated glass plates with collodion, printing ink, asphaltum, lamp black and varnish, or smoke. They drew through the coating with etching needles, quill pens, or any sharp instrument which could penetrate the ground exposing the glass. The marks drawn through the ground read as dark lines in the final print resembling pen and ink drawings or etchings. In addition, artists created tonal images with brush and oil paint, white lead and varnish, or printing ink. A range of tones were developed by selectively adding and subtracting media by brush or rag, and descriptive lines were drawn into the media with a wood stick or brush handle. During the 20th century, artists used a variety of typical drawing media: inks, water and solvent based paints, pencils, crayons, spray paints, and fiber-tip pens. However, other artists produced plates by manipulating unusual materials such as corn syrup, soot, guitar strings, and sand. While preparing the matrix, the artist understood that his drawing was the negative of the final printed image: coated or dark areas of the plate printed light and clear areas of the plate printed dark.

The hand-drawn "negative" or matrix is printed onto any light-sensitive material. Traditionally the matrix was contact-printed onto salted and albumen papers by exposure to sunlight. Factors effecting the image color and density of the final print included surface texture and sizing of the paper, length of light exposure, fixing and toning solutions, and duration of toning.<sup>2</sup> Modern artists either contact-printed or enlarged their works exploiting a variety of photographic processes on commercially-prepared and artist-sensitized papers: gelatin silver, gum bichromate, dye transfer, chromogenic color, and Polaroid, and even photographic film.<sup>3</sup>

The early history of cliché-verre follows closely with the history of photography. In 1839 William Henry Fox Talbot announced to the Royal Society his invention of "photogenic drawing" in which an object's likeness or profile was recorded on light-sensitive paper. However even earlier in 1834, Talbot experimented with what he called "photogenic etchings".<sup>4</sup> A sheet of glass, first smeared with resin in turpentine, was darkened by smoke

from a candle, and drawn into with a needle. The plate was contact-printed onto salted paper. Two months after Talbot's announcement, William and Frederick James Havell and James Tibbetts Willmore published their invention of making prints from drawings on glass plates. For whatever reasons, including a dispute with Talbot, the three Englishmen did not promote their invention. Other inventors working independently developed similar techniques.<sup>5</sup> These early interests in cliché-verre often focussed on mass-production possibilities, particularly in England, but the process proved to be more expensive and less predictable than lithography, etching, or wood engraving.

By the early 1850's three Frenchmen were investigating the autographic nature of cliché-verre in the town of Arras, north of Paris near Belgium: L. Grandguillaume, a professor of drawing, Adalbert Cuvelier, a landscape photographer, and Henri-Joseph-Constant Dutilleux, a lithographer and painter. Their endeavor proved to be one of the most integral to the history of cliché-verre as an artistic medium. In their technique, glass plates were coated with opaque collodion. Collodion, which tended to be brittle and produced irregular drawn lines, was replaced subsequently with printing ink rolled onto the plate and dusted with white lead. In order to discern the lines as they would be seen in the print, the plate was placed over black cloth during execution of the drawing.

The group introduced the process to their friend and painter Jean-Baptiste Camille Corot. Corot was a central figure to the landscape painters known as the Barbizon school who fled Paris to the small town of Barbizon on the edge of the Forest of Fontainebleau to immerse themselves in nature. As well as laying the foundation for the Impressionist painters to follow, the Barbizon artists played an important role in the revival of etching and the genesis of cliché-verre. From 1853-1875 on his visits to Arras, Corot created 66 clichés-verre, primarily sketches of the bucolic French countryside and its inhabitants. Corot's plates were primarily linear drawings printed on salted and albumen papers. Occasionally he painted the image directly onto the plate, but more often he produced dotted half-tones by striking a coated plate with a stiff wire brush.<sup>6</sup> As was his practice in etching and lithography, Corot drew the plates and others processed and printed them: primarily Cuvelier, Granguillaume, and after 1858 Dutilleux's son-in-law Charles Desavary.<sup>7</sup>

Corot introduced cliché-verre to the Barbizon artists, the most experimental of whom was the painter and printmaker Charles-François Daubigny. Despite his early relationship with Corot in 1852, he did not make his first cliché-verre until 1862 when he executed 17 plates. Daubigny, an accomplished printmaker, incorporated tools, skills, and sense of craft learned in etching to his work in cliché-verre. He executed great proficiency with the etching needle and produced dotted tonal patterns with the roulette, a toothed wheel used in etching. In addition to linear drawings, he created atmospheric renderings with brushwork. After the plate was drawn, Daubigny varied the interpretation and mood of the impression by manipulating the printing technique. When the drawn or emulsion side of the plate was directly against the print paper, the image was sharp. Daubigny often flipped the plate, emulsion side up, or added a second piece of glass to refract the light through the crisply drawn lines on the plate to produce a more evocative and soft-focussed image in the print. In addition, he manipulated printing times and modified the final image color with toners. Unlike Corot, Daubigny probably printed many of his own plates by himself or with the assistance and advice from others in the circle at Arras.

Other painters living in or visiting Barbizon executed clichés-verre, but none were as prolific as Corot nor as experimental as Daubigny.<sup>8</sup> Jean-François Millet depicted peasants

at work or home typical of the imagery found in his paintings. To create their landscape prints, Théodore Rousseau drew delicately using a fine needle, while Dutilleux was most fond of the painted method. Other Barbizon artists who produced clichés-verre were Albert Heinrich Brendel, Camille Flers, Paul Huet, Charles-Emile Jacque, and Adolphe-André Wacquez. Other artists not associated with the Barbizon school attempted at least one cliché-verre including Antoine Barye, Félix Bracquemond, and Eugène Delacroix, one of the leaders of the Romantic movement in France.<sup>9</sup> Even though fascinated with photography, Delacroix made only one cliché-verre depicting a tiger, after he was introduced to the process by Constant Dutilleux who had moved to Paris from Arras.

In 1857 the New York artist John Whetten Ehninger received from a friend a German newspaper clipping describing the cliché-verre process to reproduce drawings.<sup>10</sup> Ehninger, instead of drawing through a painted glass plate as suggested in the article, utilized a fogged collodion negative. To create tonal variations, he brushed coats of yellow varnish, asphaltum in turpentine, to selective areas on the reverse of the glass. The varying densities of the varnish layers affected the amount of light reaching the paper thereby printing a subtle range of tones. In 1859 Ehninger had published a group of clichés-verre accompanied by verses from American poets entitled Autograph Etchings by American Artists.<sup>11</sup> The prints were primarily landscape, historical, and genre images by some well-known American painters including Asher Brown Durand, Eastman Johnson, John Frederick Kensett, Emmanuel Gottlieb Leutze, and Sanford Robinson Gifford. The twelve clichés-verre were printed on albumen paper, mounted onto card, and preceded by a title page and verse. The volume was not successful and Ehninger abandoned the cliché-verre process.

Significant artistic contributions to cliché-verre in the 20th century highlight these themes: increased interest in cameraless images, abstraction, exploration of light, and experimentation with unusual materials.

Man Ray, an influential leader of the Dada movement, carried out numerous experiments with cameraless photography. In 1921 he accidentally discovered the photogram, which he called Rayograph or Rayogram, an abstract relative of Talbot's "photogenic drawing". Man Ray explored variations in opacity of objects and altered the distance of the objects from the paper. Even before that time, Man Ray created his first clichés-verre in 1917 by scratching through the emulsion of exposed photographic plates.<sup>12</sup> His prints, on gelatin silver papers, were simple, fairly representational, linear drawings capturing whimsical qualities of inanimate objects, such as egg beaters and musical instruments, automatons, and human figures. He reprinted the early images and created four new plates between 1922 and 1924, and later executed more clichés-verre in 1941.

Max Ernst, another artist included in the Dada and Surrealist circles, used the cliché-verre process in 1931 to print his illustrations for René Crevel's Mr. Knife Miss Fork<sup>13</sup>, the imaginative story of a girl's fascination with the departure of her father with a female cousin. Ernst's illustrations are shadowy and lyrical interpretations made by the drawing technique known as frottage, in which a pencil is rubbed over a sheet of paper placed on top of textured surfaces. The negatives for the publication were Ernst's actual frottage drawings on translucent papers with textures produced from wood, string, and embossed cards. The clichés-verre were printed with expertise from May Ray<sup>14</sup> and on similar matte gelatin silver paper as found in his Rayographs.

The Parisian photographer Brassai (Gyula Halasz) produced clichés-verre a few years after Ernst's endeavors. His idea to make clichés-verre came from Pablo Picasso who drew

on a photographic plate left by Brassai on a visit to the painter's studio. Brassai drew and scratched his drawings onto already exposed plates with camera-made images. These plates from 1934-1935 were published in the portfolio Transmutations<sup>15</sup> in 1967. Brassai transformed, almost obliterated, the camera-made images of female nudes with finely drawn lines inventing intricate patterns, musical instruments, and African forms of Cubist derivation. In 1937 Picasso, himself, created five supposed cameraless images for a special issue of Cahiers d'Art.<sup>16</sup>

Abstraction was embraced by several modern artists. Francis Bruguière, an important pioneer in abstract photography, experimented with many nonrepresentational techniques including multiple exposures, montages, photograms, and light abstractions.<sup>17</sup> From 1936-40 he created clichés-verre using the technique of decalcomania, the transfer of inks or paints from one support to another resulting in textural designs. Bruguière pressed wet paints between a glass plate and another smooth surface, pulled the two apart, and then contact-printed the plate onto gelatin silver paper. At the New Bauhaus in Chicago (later the Institute of Design), László Moholy-Nagy, Gyorgy Kepes, and Henry Holmes Smith explored properties of light and transparent materials to create nonobjective photographs. All three experimented with cliché-verre techniques. In at least one image, Moholy-Nagy combined a hand-drawn negative with the photogram technique of placing objects directly onto light-sensitive paper.<sup>18</sup> Kepes printed plates with painted abstract designs. Smith dripped Karo corn syrup onto glass and then projected the image onto photographic paper.<sup>19</sup> The photographer Frederick Sommer, initially inspired by Surrealist ideas, turned to cameraless images in the mid 1950's. Exploring the decalcomania technique, Sommer manipulated paint between two small pieces of cellophane and then printed the image with aid of an enlarger. In 1958-61 he printed abstract images from greased cellophane covered with soot, and after 1962 prepared negatives by transferring soot from smoked aluminum foil onto glass.<sup>20</sup> Sommer drew on foil and blackened it with soot from a candle; then he pressed the foil onto a greased sheet of glass and rubbed the back of the foil with cotton to transfer the drawing. To make prints in the late 1970's, Sommer drew on transparent film with a fountain pen.

A footnote in the history of cliché-verre as an artistic medium is the series of publications from the 1940's about "lumiprinting". Joseph di Gemma wrote about his process in Lumiprinting, a New Graphic Art, later championed by Arthur Gupstill in several articles published in periodicals for amateur artists.<sup>21</sup> Even though touted as a new process, Di Gemma's techniques were similar to those from the 19th-century, except he used lamp black and shellac for the coating material. Later he worked with white pencil, oil paints, watercolors, and spray paints on frosted plastic.

Instrumental to the revival of cliché-verre in the late 1950's were two printmakers, Vera Berdich and Caroline Durieux, both familiar with 19th-century clichés-verre. Berdich coated a glass plate with India ink washes or asphaltum, drew into the wet media with sharp instruments, and created tones by wiping areas with rags or brushes. She pressed inked fabrics, leaves, and other materials onto the plate to produce various textures.<sup>22</sup> Her images were reminiscent of Ernst's clichés-verre and Odilon Redon's symbolist charcoal drawings. Durieux was the first artist to make abstract, multicolored clichés-verre by modifying the dye-transfer process. She exposed Kodak Matrix Film on the emulsion side and then soaked the film in warm water thereby softening the gelatin. The emulsion, slightly loosened from the film support, was stretched and folded to create textural forms. After

drying and hardening, the film was soaked in a dye mixture of magenta, cyan, and yellow, and then transferred onto paper.<sup>23</sup> More color was absorbed where the emulsion was thicker thereby appearing darker in the final print. Typically in the dye-transfer process, one dye layer is printed consecutively over another rather than combining dyes into a mixture. Both artists encouraged their students to explore the process: Berdich at the School of the Art Institute of Chicago and Durieux at Louisiana State University. A student of Durieux, Aris Koutroulis, later instructed classes at Wayne State University in cliché-verre focussing on printing techniques with standard black and white photographic paper and Durieux's dye-transfer process.

Many individuals making clichés-verre were associated in some way with Berdich, Durieux, or Koutroulis, but not all artists. Jaromir Stephany, a former student of Henry Holmes Smith and photography instructor at the University of Maryland Baltimore County, painted and stained small pieces of film with viscous inks, scratched abstract images through the grounds, and then enlarged his drawings onto gelatin silver papers. Unlike many contemporary artists, Stephany was acquainted with 19th-century clichés-verre before creating his own images starting in the late 1960's. The photographer John Bloom, also familiar with earlier clichés-verre, coated small plates with kerosene lantern smoke into which lines were drawn with saw blades, guitar strings, and nails. The plates were enlarged onto transparent film and sometimes placed over watercolor drawings on paper.<sup>24</sup> Jack Sal, another photographer, explored minimalism with calligraphic repetition of marks. He drew on Japanese or other translucent papers and printed on developing-out and printing-out papers. Another artist working in the 1970's, Katherine Pappas Parks poured sand onto clear or frosted glass and drew into the sand with fingers and brushes; then photographic paper was placed below the glass, exposed, and processed.<sup>25</sup>

Several artists searched for alternatives to black and white photographs. In Michigan, Sue Hirtzel, Diane Escott, and other artists made gum bichromate prints from matrices of translucent papers, often Japanese tissues. Hirtzel, who assumed teaching at Wayne State after Koutroulis left, began a course on non-silver photographic processes. Lois Johnson, primarily a printmaker, combined the cliché-verre process with collage and hand-coloring to create photographs similar in appearance to works by Robert Rauschenberg. Johnson transferred printed images from journals transferred onto a film matrix and complemented the images with hand-drawn marks. From the matrix she made gum bichromate prints that were enhanced with paints, colored pencils, and collage. C. Ann DeLaVergne and Pamela Pittanish independently experimented with Kodak Ektacolor prints made from felt-tip pen drawings on film.<sup>26</sup>

Contemporary American artists working currently and consistently with cliché-verre appear to be few, especially those appearing in publications. From discussions with curators, it appears that many of the artists from the 1970's have not continued working with the process.<sup>27</sup> However, some students at art schools and universities are still exposed to cliché-verre through classes in printmaking history and experimental photography. They find that the cliché-verre process presents a myriad of possibilities for expressing ideas through the combination of drawing and photography.

## ENDNOTES

1. This paper serves only as an introduction to the cliché-verre process highlighting a limited number of artists and their creative endeavors. A more detailed account can be found in Cliché-verre: Hand-Drawn, Light-Printed by Elizabeth Glassman and Marilyn F. Symmes, The Detroit Institute of Arts, 1980.
2. Salted paper and albumen prints were often toned with gold chloride solutions which tended to shift the reddish brown image color to purplish brown or even blue-black. William Crawford, The Keepers of Light, Morgan & Morgan, Dobbs Ferry, New York, 1979; James M. Reilly, The Albumen and Salted Paper Book: The History and Practice of Photographic Printing 1840-1895, Light Impressions Corp., Rochester, New York, 1980.
3. William Crawford, The Keepers of Light, Morgan & Morgan, Dobbs Ferry, New York, 1979; Arnold Gassan, The Color Print Book, Light Impressions Corp., Rochester, New York, 1981; David Scopick, The Gum Bichromate Book, Focal Press, Boston, 1991.
4. Larry J. Schaaf, Sun Pictures Photogenic Drawings by William Henry Fox Talbot, Catalog Seven, Hans P. Kraus, Jr. Fine Art Photographs, New York, 1995, pg. 12.
5. In 1860 Charles Hancock invented "electrophotographs" by placing a drawn glass plate on top of a light-sensitive prepared zinc plate, exposing them to light, etching the zinc plate, and then inking and printing the plate in a letterpress. The technique was used to print the illustrations by George Cruikshank in A Handbook for Posterity, or Recollections of Twiddle-Twaddle, 1896. Harville and Pont developed "autographic engraving", an elaborate process incorporating scratched lines with tones created by washes and stumping on varnished, collodion-coated glass plates. Elizabeth Glassman and Marilyn F. Symmes, Cliché-verre: Hand-Drawn, Light-Printed, The Detroit Institute of Arts, 1980, pp. 32-33.
6. Germain Hédiard, "Les Procédés sur Verre," Gazette des Beaux-Arts 30, Nov., 1903; reprinted in Le cliché-verre Corot et bravure diaphane, Cabinet des Estampes, Musée d'Art et d'Histoire, Genève, 1982. In his article, Hédiard created the term "tamponnage" for Corot's dot technique.
7. Elizabeth Glassman and Marilyn F. Symmes, Cliché-verre: Hand-Drawn, Light-Printed, The Detroit Institute of Arts, 1980, pg. 38.
8. Copies were made of clichés-verre by Corot and the Barbizon artists including those printed by Charles Desavary, Germain Hédiard, Charles Nègre, Alfred Robaul, and Paul Desavary. In some cases the original matrices were used; in other cases negatives were made from cliché-verre prints. *Ibid.*, pp. 42-44; Sean H. Thackrey, The R.E. Lewis Collection of Prints in Cliché-verre, Thackrey and Robertson, San Francisco, 1988.
9. Phillip Dennis Cate, "The 'revolutionary intrigue' among 19th-century printmakers," Art News, March 1978, pg. 78.
10. William B. Becker, "The American 'Cliché Verre'," History of Photography, Vol. 3, No.1, January 1979, pp. 71-80.
11. John Whetten Ehninger, Autograph Etchings by American Artists, Produced by a New Application of the Photographic Art under the supervision of John W. Ehninger, W.A. Townsend and Company, 1959. See "Publisher's Preface" for Ehninger's description of his techniques.
12. Arturo Schwarz, Man Ray, the Rigour of Imagination, Rizzoli, New York, 1977, pg. 235.
13. René Crevel, Mr. Knife Miss Fork, Black Sun Press, Paris, 1931.

14. Werner Spies and Winifried Kannertz, Max Ernst Books and Graphic Work, DuMont Buchverlag, Cologne, pg. 13.
15. Brassai, Transmutations, Editions Galerie les Coutards, Lacoste, Vaucluse, France, 1967.
16. Man Ray, "Picasso Photographe," Cahiers d'Art 12, 1937, pp. 167-175. Four of the images were of the artist's mistress, Dora Maar, and the other depicted a white figure drawn onto a negative of Picasso's studio. Even though Man Ray writes about these prints as cameraless images, Marilyn Symmes, curator at the Cooper Hewit Design Museum, is unsure how Picasso made them.
17. James Enyeart, Bruguère His Photographs and His Life, Alfred A. Knopf, New York, 1977.
18. Light and Vision, Photography at the School of Design in Chicago, 1937-1952, Stephen Daiter Photography, Chicago, 1994.
19. Henry Holmes Smith, Portfolio II: Refraction Prints by Henry Holmes Smith, Center for Photographic Studies, Louisville, Kentucky, 1973.
20. Elizabeth Glassman and Marilyn F. Symmes, Cliché-verre: Hand-Drawn, Light-Printed, The Detroit Institute of Arts, 1980, pp. 119, 172.
21. Joseph di Gemma, Lumiprinting, a New Graphic Art, Watson-Guptill Publications, New York, 1942. Arthur L. Guptill, "Lumiprinting, a New Graphic Art as Developed by Joseph di Gemma," American Artist, Vol. 6, No. 10, December 1942, pp. 27-29.
22. Elizabeth Glassman and Marilyn F. Symmes, Cliché-verre: Hand-Drawn, Light-Printed, The Detroit Institute of Arts, 1980, pg. 120.
23. *Ibid.*, pp. 121, 133.
24. *Ibid.*, pg. 125.
25. Catherine Reeve and Marilyn Sward, The New Photography, Prentice-Hall, New Jersey, 1984, pp. 90-91.
26. Marilyn F. Symmes, Contemporary Cliché-verre Prints, The Detroit Institute of Arts, 1981; and "Clichés-verre: Prints made without ink or press," Print News, World Print Council, 1980, Vol. 2, No. 2, pp. 1-5.
27. Discussions with Marilyn Symmes, Cooper Hewit Design Museum; Ellen Sharp, The Detroit Institute of Arts; and Ruth Fine, National Gallery of Art.