

# International Museum of Print and Clay

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## VIEWPOINT CERAMICS: THE PHOTOGRAPHIC IMAGE

*Panel produced by Les Lawrence*

## Panelists: Bruce Breckenridge, Les Lawrence, Richard Shaw

By Les Lawrence

The purpose of this report is to document the various techniques artists can use to reproduce photographs or photographic effects onto ceramic surfaces as well as brief historical notes of interest.

With the development of photography in the 1800's, it was not long until technical exploration lead to the firing of photographs onto ceramics. A Frenchman, Leron de Marcarson, filed a patent in 1854 for a process of vitrified photography onto porcelain. It was reported that the 1887 Universal Exposition displayed numerous examples of porcelain vases decorated with such fired photographs. This process is still in use today, mostly in the gravestone marker industry.

The George Eastman Kodak Museum has an example of this era porcelain vase in their collection, and anyone interested can obtain a slide duplicate of this work. (Anything in their collection is available for a nominal \$5.00 reproduction charge.)

Contemporary techniques of applying photographic images onto ceramic surfaces can be achieved through the application of light sensitive emulsions, which are exposed and developed using more or less standard darkroom techniques. The complexity of three-dimensional objects will dictate specific darkroom adaptations that will be required. Readily available emulsions such as Rockland's Liquid Light, however, do not contain sufficient metallic content to leave an image if fired. To produce a fired image, sufficient metal compounds must be placed into the emulsion as it is made up.

It has been reported to me that the technology exists for four-color fired photographs, which has a commercial application in the gravestone industry. An example was not available.

The most common method of placing photographs onto ceramics is with the use of the photographic silk-screen. Photographic silk-screen techniques have been in wide use for a long time, and today there are a variety of films and emulsions that when exposed to ultraviolet light will harden, allowing the non-light struck areas to wash away. When attached to fabric, this stencil will provide repeated screenings of images through a variety of techniques. Detail and image resolution is very sharp and

clear.

The process of printing photographs, whether with a printing press or silk-screen, requires the image to be converted to a series of dots with a photographic process called halftoning. Halftoning allows the printing of the full range of tones from white to black. A black area would have a lot of dots close together, whereas a white area would consist of a very few black dots spaced far apart. The remaining tones that are not black or white would be made up of dots reflecting something in between. The eye usually does not readily perceive this image as a series of dots, but instead sees a photograph of full tonal value (60 to 80 dots per square inch is the usual silk-screen halftone).

The most practical silk-screen technique for duplicating images would be the making of overglaze decals. Normally cone 018 overglaze is screened onto a special decal paper which allows subsequent transfer to a fired glazed surface. When fired, the overglaze fuses to the glaze surface, leaving the photographic image or other design as a permanent part of the glaze. Decal paper is a special permeable paper with a water-soluble coated substance (such as starch or gum). Overglaze is mixed with an oil base and is squeegeed through the silk-screen onto the decal paper. When the overglaze is dry, a complete overcoat of a flexible clear lacquer type paint is screened over the top of the overglaze image, encapsulating it into a thin sheet layer on top of the decal paper. When soaked in water, the overglaze and flexible lacquer layer will slide off the decal paper, facilitating its placement onto a glazed surface. For four-color printing, the process is the same except for the three additional screenings. Decal making has an advantage of being able to reproduce a large quantity of any image at a low cost. Collage of multiple images is possible. Decals are not limited to low fire overglaze as any temperature glaze, stain, or oxide could be used, limited only by imagination, techniques employed, and ultimate firing temperature.

Other silk-screen processes have been adapted, including several mono transfer techniques. One uses clear oil base silk-screen ink mixed with ceramic pigment (any temperature) which is screened onto tissue paper. Care is taken to sufficiently retard the drying of the ink base to allow for extended working time. This wet tissue image is placed face down onto leather hard clay: when the tissue is removed, the image is left adhered to the clay. Multiple image printing, as well as image altering, is achieved with paint thinner, brushes, masking tape, and other "painting tools." A variation on this technique is done with a water base medium such as corn syrup, gum, or slip. It is mixed with ceramic pigment and screened onto newsprint and allowed to dry. They can be stored indefinitely until needed.

When the water soluble "ink" is placed in contact with wet clay, the water will soften the water soluble medium, allowing transfer to the clay. A layering of images can be accomplished using this process.

Another water base mono transfer technique is achieved by screening colored clay slip through a silk-screen onto a smooth cast plaster slab. The perfectly flat slab allows absolute contact with the silk-screen, which produces sharp, clear images. The imaged plaster is overcoated with slip; when this has stiffened, it can be peeled from the plaster slab and the image transfers from the plaster slab to the cast clay sheet. Hand building techniques form the decorated clay into shapes.

Dismounting the silk-screen from its frame allows its use over curved and slightly compound surfaces as a flexible stencil for air brushing or other spray techniques.

Computer and digital imaging of scanned photographs and designs will change the ways images are reproduced onto clay. Photo enhancing programs, such as Photocopy, allow for sizing, reshaping,

combining, and half-toning of scanned or digital photographed images. A single key operation can half-tone a photograph in a few minutes. This replaces the two-step photo process presently accomplished in a darkroom. A laser printer can create a positive transparency instead of having to go to the darkroom to develop photographic film. There are computer programs specifically written for the purpose of making ceramic decals.

An interesting discovery is the "fire-ability" of laser print images. Dry toner "ink" used in laser printers, as well as high quality copy machines, is 5-40% iron oxide mixed in a plastic base. A special decal paper designed for making custom circuit boards and decals for electronic applications will allow the laser "ink" image to be made into a ceramic decal by overcoating with decal lacquer and then transferring to glazed surfaces as traditional decals would be transferred. The image, when fired into the glaze at below the glaze's melting temperature, will fuse and remain. (Experiments with cone 06 glaze should be fired at about cone 012.) Because it is iron, the fired color is a reddish brown. In solid areas, there is a cracking effect which is assumed to be shrinkage of the plastic base of the toner ink. The detail is excellent. Continuous tone image can be printed, limited only to the dots per inch (DPI) capability of the laser printer.

Polaroid film images are transferable to clay surfaces. Using the instruction provided in Polaroid's Creative Imaging Techniques booklet, an exposed film is pulled apart after a brief, incomplete development. The negative part of the film placket is placed face down onto a smooth, damp, porous clay surface. After burnishing the back of the negative, it is peeled off, leaving the positive image of a gelatin-like material attached to the clay. Allowed to dry, this image is relatively permanent. Wet sanded terra sigillata bisque stoneware is a perfect surface for such a transfer. If washed before the image dries, a blue dye image remains. The detail in tones of blue is very sharp.

A sand blast resist emulsion is available. It is a rubber-like, ultraviolet sensitive film that washes out in warm water and when dry can be glued onto clay or glaze surfaces. Half-tone images are possible for blasting photographs.

Technical information on these products can be obtained from silk-screen supply companies or the manufacturers. Experimentation will be required to adjust techniques to individual materials and methods.

Photo images in contemporary U.S. clay work was a fascination with ceramic artists in the late 60's and 70's as seen in exhibition catalogues, books and magazine articles from that time. One such catalog, *Object U.S.A.*, which documented the Johnson Wax collection of American crafts, included the work of Robert Arneson, who decorated his large "Pot of Flowers" with a multitude of commercial decals which decorate the surface, adding not only a narrative content but a variety of colors to his sculpture potted plant. The subject matter ranged from pinup girls to roses.

Commercially produced overglaze decals, which are produced in hundreds of subjects and variations, have been fancied by the greenware crowd for years. Such found images also provided material for Howard Kottler, who collages Americana imagery onto porcelain plates. The plates, commercially produced as were the decals, removed most of the techniques from his art making.

Eric Gronborg also found subject in Americana. His work drew from the shiny chrome of Detroit as well as the sexy girlie images of Hollywood. Dollar bills and muscle builders juxtaposed, transmission gears and Maybridge photographs.

Robert Engle's white stoneware pot of Jean Harlow, with the noticeable half-tone dots, owes debts to Pot Art and was one of the most visible early examples of photo image use on clay.

Other publications from the same time reveal other examples. Roy Lichtenstein painted a series of pottery vessels in the mid-1960's, decorating cups and saucers, as well as pots, with enlargements of halftoned images. This magnified look at the images of the print media was a point of view for which he was famous.

Victor Spinski initially looked at America and some of the ultra conservative politicians, such as Richard Nixon and George Wallace, as subject matter. His works contained decal images of Richard Nixon and others. They assumed the role of evil dictators in Victor's works. His current works, which are often garbage and studio litter, use decals to mimic real objects.

Les Lawrence portrayed Native Americans, women, hot rods, and landscapes interacting in America's social fabric. His current works are sculptural vessels constructed from ultra-thin cast slabs that have been decorated via a photo silk-screen mono transfer process. Themes of social and personal narratives are created from images of dogs, pom-pom girls, George Washington, and printed circuits to list a few.

Richard Shaw developed a four-color overglaze decal process which he uses in his trompe l'oeil sculpture works. His subjects are often nostalgic as well as magical. He constructs figures from cast porcelain that are molded from sticks, old coffee and paint cans, packs of cards and many other commonly found objects. They have a surreal nature such as dollar bill covered ships floating on an ocean that is really the marbled cover of an old book. It is only then that the viewer realizes it's all made of clay and is just an illusion.

Bruce Breckenridge uses a computer to create the designs and also generate silk-screen positives for his large Majolica decals. His decals are sized to individual tile that make up the large scale wall murals of geometric designs in elaborate color systems. An early experimenter with photo techniques and overglaze decals, Breckenridge continues a collage process of decals for his smaller works.

Ron Nagle's early use of overglaze decals produced his famous Voulkos birthday cup. It had a photo decal of Peter Voulkos in an oval on its side and was made to celebrate Voulkos's birthday. His current work uses photographic overglaze decals of diverse visual imagery, creating seemingly mysterious narratives. The images that interact with the vessels are such diverse things as shadow puppetry, telephones and oriental writing.

In surveying ceramic exhibition catalogues of the 1970's, it was found that they contain many examples of pieces that use overglaze decals, in some form or another. Many of the artists who were using these techniques were teaching and generated a lot of interest among their students. Interest was led by the popularity of Pop Art and the resulting exploration of many commercial techniques, including silk-screen. The increased interest in photography also added to the use of photography in ceramics.

A survey of the current ceramic scene found that, in addition to the above-mentioned artists who are still working using photo-ceramic techniques, a number of other artists are fascinated with the photograph and use it in some form in their work. These artists were contacted via solicitations made in *Ceramics Monthly* and *ClayArt*, the electronic ceramic discussion group organized jointly by Richard Burkett and Joe Molinaro. Additional contacts were made via past knowledge, word of

mouth, and a few lucky finds.

Scott Rench—direct silk-screens specially treated underglaze onto clay slabs using computer designed multicolored images.

Marea Geszler, from Hungary—direct silk-screens onto wet clay slabs which she forms into sculptural forms.

Peter Lenzo—direct silk-screens onto clay slabs that are utilized in wall forms, often life size.

Linda Mcray—uses non-fired photographic emulsion to develop photographs onto clay used in mixed media constructions.

Kit Anderson, England—uses nonfired emulsion to create sculpture with photograph decorations.

Ann Friedman—uses Polaroid transfer techniques on bisque clay to paint her vessel forms.

Jim Bennet, England—experimenting with bichromate fired photograph techniques.

Warren Palmer, Australia—has developed a technique of modifying the print cycle of a Cannon copy machine to produce unfused prints that will transfer to wet clay.

John Chalke, Canada—decorates his plates with a variety of photo silk-screened overglazed images.

Ron Carlson—makes overglaze decals that he uses in combinations to decorate his vessels and sculptures.

Vina Schemer—a studio potter who decorates her thrown pots with a variety of overglaze photo decals.

Susan Garson and Tom Pakele—produce a line of multicolor overglaze decal decorated pots.

Beverly Crist—silk-screens clay slabs which are made into sculpture.

Richard Burkett—uses nostalgic imagery in combination with clay to create mixed media sculpture.

Eric Doctors—created a large wall mural using direct screened clay slabs.

Leigh Harrington, Canada—decorates thrown vessels with overglaze decals, often of text material.

Peter Longe, New Zealand—slip casts real objects that he constructs into sculptures and vessels. Labels for paint cans and such are overglaze decals.

Jo Ann Callis—a photographer who constructs traditional clay still lifes and photographs them.

Photographic images are powerful because they communicate so directly to the viewer. Whether the narrative is readily perceivable or not, there is a willingness on the part of the viewer to engage the dialogue and interpret their meanings. This dialogue is at its best when the narrative is less direct, forcing the thought that there may be more than one answer to the story.

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Decal Paper—Brittains Tullis Russell Inc., 500 Summer St., Stamford, CT 06901, (203) 324-7536.

Slide of 1800's porcelain with photo—George Eastman House, International Museum of Photography, 900 East Ave., Rochester, NY 14607.

Liquid Light Emulsion—Rockland Colloid Corp. P.O. Box 376, Piermont NY 10968 (914) 359-5559.

ClayArt Electronic Ceramic Discussion Group—Richard Burkett, San Diego State University, San Diego, CA 92182 (619) 594-6201; E-mail: .

Les Lawrence is professor of art and head of the ceramic area at Grossmont College. He has exhibited in over 180 exhibitions, including those sponsored by Smithsonian Traveling Exhibits, Oakland Museum, Museum of Contemporary Crafts, New York, Crocker Museum, Pacific Design Center, San Diego Museum of Art, San Francisco Museum of Modern Art, Xerox Center, Philip H. Johnson Museum of Art, and Texas Tech Museum of Art.

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