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AN ABSTRACT OF THE THESIS OF Catherine Lynette Chisholm
for the Master of Science in Teaching presented
April 28, 1969.

Title: Acetate as a Fine Arts Medium.

APPROVED BY MEMBERS OF THE THESIS COMMITTEE:

Byron J. Gardner, Chairman

Raymond Grimm

Robert Morton

Richard Prasch

Acetate has traditionally been used as a packaging medium. This thesis proposes that acetate can be used as a fine arts medium and can be adjusted for use in the high school art class.

Acetate has the advantages for classroom use of economy in price, minimal clean-up, incorporating qualities of collage and painting.

Experiments were conducted on acetate to determine what changes could be made to its surface. Samples of acetate were exposed for periods of time to common household liquid and solid chemicals and heat. The results were recorded and the information gained applied to creating paintings and slides.

Acetate painting may be executed upon transparent, translucent and/or opaque surfaces of these combinations. Flat and three-dimensional sets were used as screens for the projection of transparent slides.

Slides and paintings are presented as an accompaniment to the text of the thesis.

It was concluded that students in the high school art class can use acetate as a fine arts medium.

ACETATE AS A FINE ARTS MEDIUM

by

Catherine Lynette Chisholm

A thesis submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE
in
TEACHING

Portland State University
1969

TO THE OFFICE OF GRADUATE STUDIES:

The members of the Committee approve the thesis of
Catherine Lynette Chisholm presented April 28, 1969.

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May 21, 1969

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Catherine Lynette Chisholm

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CHAPTER I

INTRODUCTION

The contemporary high school student has grown up with synthetic material and has known plastic as part of his environment. American artist Lester Levine has been quoted as saying of plastic, "There is a group of people who grew up in plastic diapers. For them, the material is as natural as cotton was to their older brothers and sisters." (4, p.36-37)

An older generation may look upon synthetic material, notably plastic, disparagingly, resenting its position as a replacement of traditional material and yet remain intrigued by its possibilities, particularly its uses as a packaging medium.

It is the objective of this thesis to present evidence gained through experiments that acetate has the potential for releasing aesthetic meanings, that it can be used as a fine arts medium, and that it can be used in the high school art class.

Paintings and slides have been produced following experiments exposing the acetate to household chemicals and heat and incorporating the knowledge gained from the experiments into an expression of painting. Slides

accompany the thesis text.

Acetate has practical advantages for use in the classroom. It is economical in cost, and clean-up is minimal. The application of the medium is not confined to cutting and pasting or solely painting. The experiments shed light on ways of changing a surface. The effective household chemicals are safe, easily handled and accessible.

Properties of Acetate

The type of acetate dealt with is a transparent plastic sheet. It may be secured in five basic colors, different gauge weights and varying trade names.

Kodacel is the trade name of the acetate used for the experiments herein described. Manufactured by Eastman Kodak Company, Kodacel is a cellulose acetate. This organic material has properties of transparency, resistance to heat, rigidity, high tensile strength and light gauge weight. It is utilized in trade as envelope windows, wrappings, pressure sensitive tape backing, food and hardware packages and box windows. (5, p.1)

Light as an Expressive Form

Acetate bends the medium light into shapes for expression that can be called painting.

The easel painting, according to Panofsky, is a man-made object demanding to be experienced aesthetically. It is an object which requires intuition and an attitude of mental re-creation on the part of the spectator. The man who makes it is the painter. His

picture may consist of ready-made colored substances glued together. (7, p.48)

The record of the interest in light as an expressive form includes the ancient Chinese and their fireworks. In another culture, fountains were indicative of Moslem interest in light. Baroque Europe displayed light and water combinations. From Vermeer and Rembrandt to the Impressionists, men have been drawn to the warmth and attractiveness of light.

The Futurist Manifestos of 1909-1912 were odes to light and movement. The Futurists named themselves the "Lords of Light." (7, p.48) In 1923, Laszlo Moholy-Nagy, teaching at the Bauhaus, developed a series of experiments investigating and interrelating new art forms and media. (1, p.56)

James Davis, contemporary American painter, began twenty-five years ago to use light in painting, and his process incorporated acetate. In 1944, Davis began painting on acetate to intensify the feelings of space. The same year he began spotlighting the layered transparencies. His objective was to cast colored shadows through the acetate onto a black background.

His later mobile light projections were accompanied by music and shown through a translucent screen. He recently has produced abstract films of light in movement. (1, p.69)

Billy Apple, American artist, uses fluorescent,

colored, blown glass tubes in his work with light. The light is contained within the sculptured glass. Apple is now working with laser beam light and feels any artist using light is working in the direction of the laser.

The laser beam art makes it possible for visual experiences of art to go beyond the perception of a two-dimensional picture on a wall or a physical object in a room. The laser picture is a reconstructed image. The image is real in appearance, in color, and is three-dimensional. The laser picture eliminates the physical boundaries and creates a visual experience that physically does not exist. Light alone is the picture. The eye perceives what the hand cannot, for what is seen is merely a visually reconstructed image. (1, p.46)

CHAPTER II

EXPERIMENTS WITH ACETATE

The purpose of the experiments was to determine what changes would take place on the surface of acetate that would affect its appearance. The knowledge gained from the experiments would be applied when creating paintings or slides.

Altering the Surface of Acetate with Household Chemicals

Kodacel acetate was treated with a variety of common household chemicals. Samples of acetate were either submerged in liquid chemicals or had solid reagents rubbed into them for varying lengths of time. Changes in color and texture of red acetate are recorded in Table I.

Altering the Surface of Acetate by Application of Heat

The application of heat with a steam iron, match, cigarette, or heat from an oven faded the original color of the acetate. Variations of temperatures and length of heating time caused textural changes that ranged from molten, organic-appearing holes and scars to sharper, hairy, wispy edges that resembled splintered glass. The latter was caused by direct flame. Grooves, crevasses, tears, splits, pock marks, indentations, and

TABLE I

COLOR CHANGES IN RED ACETATE AS EFFECTED BY
VARIOUS HOUSEHOLD CHEMICALS

Household Chemical	Time Exposed	Appearance after Exposure to Chemical
Iodized salt	1 hour	Color value changed to pink
Chlorox bleach	2 hours	Faded to orange, split and pocked
Catsup	2 hours	Stained brown
Coca cola	2 hours	Stained brown
Instant coffee	2 hours	Stained and spotted brown
Rubber cement	2 hours	Cracked and warped
Contact cement	2 hours	Cracked and bubbled
Mercurochrome	2 hours	Stained pink
Nail polish remover	30 minutes	Dissolved after fading to pink
Liquid wax	15 minutes	Clear to translucent surface changed to matte texture
Acetone*	10 minutes	Dissolved
Boiling water	10 minutes	Gloss changed to matte surface
Blitz Weinhard beer	2 hours	Surface swollen
Ball point pen ink	10 minutes	Purple color pocked slightly

*Must be used in well-ventilated area and kept away from flame and heat.

Elmer's glue	2 hours	Warped, streaked
Transparent Hyplar gel	2 hours	Warped and lightly spotted
Acrylic paint	2 hours	Opaque areas created
Metallic paint	2 hours	Translucent areas created
Neon paint	2 hours	Opaque area created

bubbles appeared as more heat was applied. Dimensional changes in actual planes on the surface of the acetate were caused by warping and bending. When this treated acetate was made into slides and projected on a screen, the effect was the appearance of great depth and variety in the surface plane. The treatment caused the shiny surface of the acetate to dull and exhibit a matte quality.

Incorporating Two- and Three-dimensional Images and Letter Forms

Print and pictures from magazines were transferred onto the acetate by several methods.

To lift print from a glossy magazine, the magazine picture to be copied was placed face up on a hard surface, then covered with acetate. An iron was adjusted to "cotton" and applied for five minutes. By this method colored ink as well as black and white ink were lifted onto the surface of the acetate. Color value and warping varied according to the degree of heat applied to the acetate.

A clearer image was obtained by the use of acetone. A generous amount of acetone was applied to the surface of the acetate sheet. The image to be transferred was placed face down over the acetate and rubbed for about five minutes with the smooth end of a non-plastic utensil

such as a knife handle.

Use of Heat to Shape Acetate

Printed cardboard proof-mats from newspaper publishers were used as templates for making clay or casting plaster of Paris positives which are heat resistant. Acetate was placed over or under the mold and heated in the oven at 425° F for twenty minutes. This resulted in transferring the print from matte to acetate.

Another method of casting was placing a small piece of acetate set over a coin and heating in the oven to 450° for twenty minutes. A cast was made which produced a clear image of the coin.

In both cases using the molds, the acetate faded. The silver was a better conductor of heat than either the plaster or the clay. Warping in the acetate occurred to a greater extent with the use of the plaster mold than it did with the fired clay or silver mold.

In another experiment a sheet of acetate measuring about 8½" x 11" was placed over the face of a clay bust that had been previously fired and painted with enamel. The edges of the acetate were affixed with a flour and water paste. The mold and acetate was placed in the oven and heated at 450° F for forty minutes. The acetate melted over the features, sinking into details of eyes, nostrils, lips, and picking up many lines. Exposed to

room temperature, the acetate cooled immediately. The paste which secured the edges of the acetate to the fired clay could be removed easily. The result was a transparent acetate mask.

Use of Additional Media

Movement in acetate was created by melting wax on acetate slides projected on a screen. These unpredictable images projected actual movement. To construct the slides, wax was melted onto a square of acetate and sealed between it and another square of acetate. The acetate slide was inserted in a conventional mount for transparencies.

When these slides were projected, the heat of the projector caused the wax to melt. The engulfing flow of wax animated the cold, hard acetate, and immediately the slide changed its form.

Using paint on acetate resulted in a variety of images. Acetate slides upon which acrylic paint had been applied and had chipped away appeared feathery on the screen. Other slides, with paint peeling or cracked, displayed startlingly sharp images. Metallic and neon paints caused spatial planes that appear to have greater three-dimensional depth than occurs with acrylic paints. Spray paints caused deep spatial planes.

Stained glass paint produced a transparent overlay

with a fluid appearance. All of these techniques were also used for painting with acetate. Other media combined with acetate in painting were tissue paper, collage materials, mirrors, and plexiglass. Reflections and mirroring surfaces were incorporated in an effort to bend and shape light into a painting expression.

Experiments with Sets, Screens, and Focus for Acetate Slides

Slides were projected on an opaque and translucent foundation to achieve a variety of effects.

Slides shown on uneven screens such as vertical white tubes or white fruit or egg cartons were fragmented as the light moved in and out of sculptured indentations. When the projector was moved across such a screen, the image followed the contours of the screen.

Using a frame covered by a sheet, a shadow screen was set up. Projecting an acetate slide on a sheet with human figures behind it, the shadow of the humans became part of the screen.

A large weather balloon, six feet in diameter, provided another experimental set. As the balloon was pulled by a string toward the projector, the diverging colors converged into focus. The lightness of the balloon re-emphasized color and light of the slide. Further experimenting with light and focus was made

possible by the use of two slide projectors. Colorful effects were produced by the superimposing of the slides. These slides were then alternately projected in and out of focus.

Increasing and decreasing the light from the projector lens caused a strobe effect and gave an illusion of movement to the projected slide. Organic-looking shapes in the slide moved and became life-like, resembling microscopic animals, appearing to move by their own volition.

Supports for Acetate Paintings

Acetate paintings may be executed upon transparent, translucent, and opaque supports.

Transparent Supports. A transparent support as the surface for the painting can be acetate, glass, or any transparent surface with a natural or artificial light source.

The viewer looks "at" painting done on opaque supports or ground. Examples are oil on canvas or water color on paper. The viewer looks "at and through" an acetate painting on a translucent or transparent ground. The forms in the environment that are framed by the painting ground become additional media that are part of the painting but not part of the painted surface.

An acetate painting against a window that overlooks the city allows the accidental meeting of background and

painting. The transparent overlay of colored acetate on a collage of city background emphasizes the possible aesthetic expression of technology.

Translucent Supports. With a light box or lightboxes of varied shapes the viewer finds himself looking "at and through" the painting. The light source, usually artificial, is diffused throughout the surface area by the placing of a sheet of translucent plexiglass, tissue or rice paper, build-up of acetate, or some kind of translucent paper over glass or a transparent sheet. The light is not as direct as is the transparent source, and the effect is softer.

The demands for attention made by a lightbox are more dramatic than many other presentations. Light leads the eye of the viewer to the lightbox that serves as ground for the painting.

Opaque Supports. The opaque support does not allow light through the painting but emphasizes the reflective qualities of acetate. With an opaque support the viewer sees the reflections and mirrorings that go on outside the surface of the painting yet occur simultaneously on the surface of the acetate. One is visually aware of planes reflecting in front of and behind the painting which make this kind of viewing an extension of traditional viewing perception.

CHAPTER III

ACETATE PAINTING AS A PROJECT FOR STUDENTS IN A HIGH SCHOOL ART CLASS

Problem: The exploration of acetate as a fine arts medium for use at the high school level.

Objectives:

1. To develop a willingness to discover a new material.
2. To become aware of the possibilities in a new material.
3. To become aware of the combinations of acetate with other media.
4. To discover to what extent the student can control the media and how and why he finds himself conforming to the medium.
5. To develop a sense of resourcefulness in adjusting to the unexpected.

Time Allotment: Three to four weeks

Number of Assignments: 3

Materials Needed:

clear acetate	transparency frames
5 colors of acetate	slide projector & screen
acetone	tissue paper
spray paint	Scotch tape
acrylic paint	masking tape
neon paint	bowls for dipping
Elmer's glue	wax paper
Hyplar gel	egg cartons
magazines	mailing tubes
wax	globes
steam iron	mirrors
paper towels	balloons
rags	lightboxes
water	publishers' proof mats
paint brushes	ceramic molds
cotton	window to be used as work area
scissors	liners for fruit packing crates
household chemicals	extension cords
vinegar	
catsup	
bleach	
Ajax	
detergent	
floor wax	
shoe polish	

Sample Assignments for the Student

Problem One. Exploring the Medium Acetate. Acetate has traditionally been used in trade as a packaging medium. It has possibilities as a fine arts medium.

Discover the potential that acetate has as a fine arts medium.

a) Change the color and texture by applying solid household chemical to the surface of the acetate.

b) Submerge the acetate in the liquid reagents, and observe the effect on color and texture.

c) Explore the effects of the applications of heat to the acetate.

d) Discover how ink can be transferred from glossy magazine pages on to the acetate surface.

Students will work in small groups. Each group will experiment with one or more ways of altering the color and texture of acetate. Supplies will be provided, but students are encouraged to bring in other materials to extend the investigations.

The products of these ventures will be displayed on the bulletin board with an accompanying description of the technique used to achieve the effect.

Problems Two and Three will involve further use of these products and techniques.

Problem Two. Using Acetate and Light as an Art Form.

The surface upon which a slide is projected will affect

the image. The image is also affected by whether the screen that reflects the image is two- or three-dimensional and by the movement of the projector.

Students will work independently using the treated acetate to make a transparent slide for projecting.

Students will work in small groups. Design a screen and experiment with projecting slides upon a variety of screens and upon a variety of surfaces such as egg cartons, mailing tubes, globes, shadow screens, people, boxes, balloons, mirrors, or water.

Problem Three. Creating Acetate Painting. The instructor will show collages of the Cubists and Abstract Expressionists painted in the traditional media and examples of acetate paintings on transparent, translucent, and opaque supports.

Students will note the kind of line that is created by tearing, cutting, and overlaying acetate, and the kinds of color changes that are created by overlaying, chemical reaction, heat, and juxtaposition of colors.

Students will experiment with different lighting effects on, against, behind, and within the sheets of acetate.

Each student will create three paintings on three kinds of support, using treated and untreated acetate and additional media.

Figure 1. Transparent acetate painting against translucent plexiglass support.

Figure 2. Transparent acetate painting against translucent plexiglass support.

Figure 3. Acetate painting against translucent plexiglass support.

Figure 4. Acetate painting against opaque support.

CHAPTER IV

SUMMARY

Acetate can be utilized as a fine arts medium in the high school art class. Students can be given the opportunity to experiment and investigate this creative material as a vehicle for personal expression.

Altering the surface and texture of acetate by the application of heat, household chemicals and other media gives it new visual potential. Supports for paintings can be transparent, translucent and opaque. Slides can be projected on various types of two- and three-dimensional surfaces.

The expressive possibilities of light have been of interest to artists for centuries. Acetate can shape and bend light. The use of this material adds a new dimension to the fine arts.

A SELECTED BIBLIOGRAPHY

1. Apple, Billy. "Live Stills," Arts Magazine, LXI, (February 1967), 46-47.
2. Davis, James. "Light Reflections," Art in America, November-December 1967), 65-69.
3. Fabricating and Decorating Vupak. Springfield, Massachusetts: Plastics Division, Monsanto Chemical Company, n.d.
4. Ghiselin, Brewster, ed. The Creative Process. New York, 1963.
5. Jensen, Lawrence. Synthetic Painting Media. Englewood Cliffs, New Jersey, 1964.
6. Kepes, Gyorgy, ed. Education of Vision. New York, 1965.
7. McLuhan, Marshall. Understanding Media: the Extension of Man. New York, 1964.
8. McLuhan, Marshall, and Quentin Fiore. The Medium Is the Massage. New York, 1967.
9. McLuhan, Marshall, and Quentin Fiore. War and Peace in the Global Village. New York, 1968.
10. Perreault, John. "Plastic Man Strikes," Art News, 67 (March 1968), 36-37.
11. Printing on Kodacel Film and Sheet. Kingsport, Tennessee: Chemical Division, Eastman Kodak Company, 1966.
12. "Restless." Eastman Kodacel Plastic Film Sheet, 1967.
13. Shahn, Ben. The Shape of Content. New York, 1957.
14. Stearn, Gerald Emanuel, McLuhan: Hot and Cool. New York, 1969.
15. Todd, John M., ed. The Arts, Artists, and Thinkers. New York, 1958.

16. "Vote from the First Impression." Eastman Kodacel
Plastic Film Sheet, 1964.

APPENDIX

ACETATE SUPPLIES AND SOURCES OF INFORMATION

Plastics Division, Eastman Chemical Products, Inc.
Kingsport, Tennessee

Dietzgen Engineer Supplies
134 N.W. 8 Avenue
Portland, Oregon

J.K.Gill Company
Portland, Oregon

Monsanto Company
P.O. Box 3790
Anaheim, California

Portland State University Bookstore
570 S.W. Hall Street
Portland, Oregon

Stagecraft Industries, Inc.
1302 N.W. Kearney Street
Portland, Oregon

Universal Plastics
910 S.E. Stark Street
Portland, Oregon

LIST OF SLIDES

SLIDE

1. Acetate affected by match burn, acrylic paint, and juxtaposition of color.
2. Acetate affected by cigarette burn and metallic paint.
3. Acetate affected by steam iron set at "cotton".
4. Acetate affected by steam iron set at "nylon" and pressed under glossy magazine print.
5. Acetate affected by acrylic paint and household bleach.
6. Acetate overlay affected by wax.
7. Acetate overlay affected by clear plastic cement.
8. Acetate affected by steam iron set at "wool".

Slide 1.

Slide 2.

Slide 3.

Slide 4.

Slide 5.

Slide 6.

Slide 7.

Slide 8.