5-1-1975

Two Series of Dye-Transfer Color Derivation Prints

Robert Pfeiff

Follow this and additional works at: http://scholarworks.rit.edu/theses

Recommended Citation

This Thesis is brought to you for free and open access by the Thesis/Dissertation Collections at RIT Scholar Works. It has been accepted for inclusion in Theses by an authorized administrator of RIT Scholar Works. For more information, please contact ritscholarworks@rit.edu.
THESIS REPORT

TWO SERIES OF DYE-TRANSFER COLOR DERIVATION PRINTS

by

Robert L. Pfeiff

Candidate for the Master of Fine Arts
in the
College of Graphic Arts and Photography
School of Photographic Arts and Sciences,
Rochester Institute of Technology

Report Submitted May 1975

Professor John Pfahl
Advisor

Professor Hans Barschel

Professor Tom Wilson
TABLE OF CONTENTS

Illustration Index....iii

Introduction....iv

CHAPTER I....2
    The Eight Photographs of Series I

CHAPTER II....10
    The Ten Photographs of Series II

CHAPTER III....16
    Conclusions

BIBLIOGRAPHY....19
ILLUSTRATION INDEX

Illustrations- Series I....9

Illustrations- Series II....15
INTRODUCTION

The text of the final Thesis Proposal titled: An Exhibition of Color Photographs: Sun and Water-Winter dated 7 January 1971 was as follows:

I. Purpose of the Thesis:

The thesis will culminate in a set of color prints, suitable for exhibition as a one-man show, coherent as a series in subject matter and visual treatment.

II. Scope of the Thesis:

1. Subject area to be included: The prints will be interpretative of the relationship of winter sun with water in its various forms as snow, ice, clouds, bodies of water and the like. Other natural or man-made elements may be included as appropriate.

2. Projected areas of readings: visual perception, especially color; the use of color in the visual arts; light and color phenomena in the natural world.

3. Examination of visual references: treatment of similar subject matter by artists will be studied primarily through reproductions in books.

4. Areas of technical research: special techniques in color printing will be investigated as necessary to achieve the desired images; a variety of image modification techniques may be considered.

5. Media and techniques of execution: it is expected that both Ektacolor and Dye Transfer prints will be included.
depending upon which is more suitable to achieve the effect desired.

6. Number of works to be finished: a minimum of twenty prints will be included.

III. Procedures:

The initial phase of negative making will be accompanied by the making of color contact and selected enlarged proofs. The images to be included in the final set will then be selected and printed in a manner consistent with the purpose of the thesis. The thesis report will contain discussions of the various researches accomplished, the rationale for the selection and photographic treatment of the images and a report of any particular problems encountered and their solution. The thesis book will include 35mm color transparencies mounted as slides as a record of the images."

The submission of this proposal to the Graduate Committee resulted in the following text of an Office Memorandum dated 12 February 1971 addressed to me on the subject of the proposal:

"This memorandum is to state -- for the record -- that your Thesis Proposal has been accepted by the Graduate Committee (MFA) SPAS, subject to the following conditions:

1. The majority of the Committee felt that, literally interpreted, your statement might be taken to describe a series of cliches. Rather than delay acceptance over what might be merely a semantic issue, the Committee would prefer
to assume that your approach will be visually sophisticated enough for a Master of Fine Arts degree. Your should immediately select two advisors as outlined in another memo of this date and make arrangements to seek their guidance on this matter.

2. You should be prepared to show some of your work to the Committee and to discuss further directions on Friday, March 12.

3. The Committee is concerned about accepting a proposal conditionally. Even in the case of a normal acceptance of a Thesis proposal, there is no guarantee of acceptance by the Committee. Unless the Committee rates the Thesis and the Thesis Report both as "Satisfactory" the degree can not be granted, regardless of registration for the required number of hours.

In view of our earlier discussion of the philosophy of the program I'd suggest that you select both advisors from the Committee, with a view to getting a good cross-section of opinion. Good luck!

(signed)
Arnold Sovari, Coordinator, M.F.A. Program"

The foregoing Proposal and Conditional Acceptance were the result of a long and difficult process commencing with the original submission of a Thesis Proposal in October 1970. It was a relief to obtain even conditional approval so that work could be undertaken in earnest, although very late in
the scheduled period.

Experimental photographs had been made continually during the months of thesis proposal discussion in exploration of the ideas being submitted. The work shown at the March 12 meeting with the Committee was still some distance from the mark but was taking form and direction. Several of the final prints from the first of the two series were ready for a Committee Review on an unrecorded date in May. All prints were finished by the last week of June 1971.

As the work progressed the "interpretation" narrowed in scope to "Sun and Water" in the form of the interaction of light with natural running water and with forms in snow in two separate and quite different series. Other images utilizing clouds, ice and scenes were excluded during the evolution of the work as being inconsistent with the character of the two major series which came to the fore.

The concept of image modification was played down in the Thesis Proposal as any sort of manipulation had been discouraged in my graduate photographic courses as, indeed, had color photography been. This had been a disappointment to me and I had taken the opportunity to correct this in part during two independent study courses in the first quarter of the second year. These were in Dye Transfer Color Printing with Professor John Pfahl and Photoserigraphy with Professor Roger Remington of the College of Fine and Applied Arts.
These provided exploratory vehicles for this type of work. However, much development that I wish had been accomplished starting in the first year had to take place during the thesis project.

Aesthetic and technical research for this project was primarily a matter of review. Forty-two years old at the time of this work, I had had a lifelong abiding interest in photography and the fine arts in general so specific influences are difficult to point out. A selected bibliography of books from my personal library which I had read over the years is included in this report. In addition to these I had for years read many photographic and art periodicals, visited galleries around the world and had a longtime interest in philosophy, psychology and the physical sciences. I consider that a deep understanding of the science of photography is an essential element in the craft required for personal expression in a controlled, intellectual manner. These accumulated experiences play a great role in personality, world view and evolution of a complex individual.

A final word about the obvious delay in completing the Thesis Report. This report has been written and rewritten completely several times. The problem has continually been one of attempting to explain and justify the images to reviewers who seemed determined to question the value of this type of work. I no longer feel that need. The prints and the work
done in accomplishing them are of obvious value to me and have been accepted by my Thesis Board. A deep and prolonged personal crisis, now resolved, and the great pressures of a challenging profession have put off this final rewriting. I hope time has added a healthy perspective and insight.
EXPOSITION

In my personal flights of fancy there has long been a "what if" world. What if the conditions of our world's formation had been other than what they were? If we lived under a different star, if the distribution of the elements had been that of another gas cloud, what then? What if I inhabited any of the millions of other worlds from which scientists seek intelligent intercourse by means of their gigantic arrays of radio paraphernalia? Suppose evolution had taken down some other path? What if the world I live in looked altogether different?

There is another side to this conjecture. Modified reality through photography has aided man to visualize the complexities of his world far beyond the capabilities of his ordinary senses to discern. Multiple camera sequences, slow and fast motion film and video (with its element of delays)
CHAPTER I

The Eight Photographs of Series I

The Photographs of Series I are untitled but concern some aspects of water in motion. Water is fundamental to life and has a very special value in our relationship with nature. We each have personal feelings about and characteristic responses to this common but essential relationship. Our associated mood varies as an extension of the sensory stimulus we imbibe as water flows, falls, breaks, slides, gurgles, murmurs and the like. Flights of fancy are triggered as our personalities and imaginations assimilate the nature of the flow. These can ferry us on an out-of-this-world voyage.

In my personal flights of fancy there has long been a "what if" world. What if the conditions of our world's formation had been other than what they were? If we lived under a different star, if the distribution of the elements had been that of another gas cloud, what then? What if I inhabited any of the millions of other worlds from which scientists seek intelligent intercourse by means of their gigantic arrays of radio paraphernalia? Suppose evolution had led down some other path? What if the world I live in looked altogether different?

There is another side to this conjecture. Modified reality through photography has aided man to visualize the complexities of his world far beyond the capabilities of his ordinary senses to discern. Multiple camera sequences; stop, slow and fast motion films and video (with its instant play-
backs); infra-red, ultra-violet and monochromatic photography; density, temperature and contour slicing enhanced by color differentiation; false color films designed for enhancing selected characteristics of a scene; polarized light techniques; all these and many more have made the invisible visible and at the same time have produced many images of rare beauty. This beauty is not only in the image but in the insights presented of an otherwise unknown world.

Images made for scientific purposes have been published and exhibited as art. Artists have learned the scientist's techniques in order to delve into their image possibilities. We have learned much from both and enjoyed the beauties of the resultant images. Unfortunately many photographic derivative techniques have been used for their own sake without regard for communication. They are employed only to produce something different or "far-out". Posturization, false-color films, Sabattier Effect, bas-relief, unnatural filters and the like, ad infinitum, result in unfathomable distortions of the landscape or people or whatever. Most are accidental results, the photographer having little or no control of the process accepts whatever turns out. He is content so long as the resulting image is different and then goes on to the next unorthodox application. His fancy is a sham and means no more to him than to his viewer on whom it pales rapidly.

How then, as a photographer, do I attempt to communicate something of my feelings of the essence of my chosen theme? How do I feel about water? I can respond to it emotionally.
Knowledge of its physical and chemical properties color my understanding of its character. In what ways do I see it in my fantasy world which I can show photographically to others?

Emotionally I find joy, serenity, exhilaration therefore the images should be happy, beautiful. Intuitively I am aware of the physical forces in action: temperature, pressure, gravity, impact interacting with viscosity and surface tension. My fantasy vision has the eyes of the mad scientist-inventor Spalanzani of Jacques Offenbach's opera "The Tales of Hoffman", eyes which see in all sorts of unnatural ways. My instant color playback is out of phase, changed in color, reversed in value, all kinds of fun things to make the water more watery, the emotion more exhilarating, the image more exciting.

Experimenting or playing with these kinds of ideas involved making color negatives of many conditions of water and printing them in a variety of ways on Ektacolor paper. Among other ideas there was one triggered by a few images made by Robert S. Harris and published in Popular Photography magazine for May 1968. I found one of these rather pleasing, it had taken advantage of what at once time had been considered a fault in the making of direct separation negatives, that is individual exposures through each of the three additive primary color filters. The fault being that in a moving subject such as swaying branches or waves in water the color images do not register and when printed appear as separate images in any of the six (additive plus subtractive)
color primaries depending upon how they overlapped. He was said to have used both individual exposures for red, green and blue or one exposure with a special arrangement of the filters to pass all three before the lens during the exposure. To me Harris's technique had some shortcomings: the color of the final image was limited to combinations of the six primaries, I wanted to get away from these and to control the colors exactly; the technique involved an excessive degree of accidental imagery, I wanted to compose the image as I envisioned it; and there was a lack of flexibility for experimentation in the darkroom which I felt to be a necessity.

My first experimental images were not satisfying but, of course, led to additional ideas about getting what I had in mind. As indicated in the Introduction of this report I was also experimenting with clouds. One of these experiments involved photographing a single cumulus cloud over a period of about twenty minutes during which it grew in size and was blown toward my position. An Ektacolor print using three chosen negatives, out of the set of twelve, printed by the Tri-color Method showed promise and was the genesis of the series. The first successful water print was made from three Ektacolor negatives I had made of a stream with a large quantity of foam floating on it. It was made by the tri-color method, changing the negatives between exposures and using a pencil sketch to roughly guide registration. The print was made using various combinations of filter versus negative until the power and flexibility of the technique was proven.
A need for greater control of the colors was evident. Dye Transfer Printing was the obvious choice to obtain that. A Dye Transfer print of these three negatives is included as number eight in this series and is much different in appearance from the first Ektacolor print tests.

At this juncture in the work I determined that I wanted at least three images of the same body of water but in a variety of surface conditions. I would make color separation matricies from these and then print them in whatever colors suited my fancy by means of mixing special dyes as necessary as I had done in a tentative fashion during the Dye Transfer Printing Independent Study mentioned in the Introduction. I decided to make at least six exposures of each subject on color negative film without filtration. I would then, by means of color separation, have eighteen images to select from for making the matricies. To continue the experimentation I elected to start with 35mm cameras thinking of going larger format when I had it down. As it turned out, 35mm was satisfactory and all the images in the series were from that format.

A large number of subjects were photographed. As the series of exposure progressed I attempted to visualize the differences in the appearance of the water from exposure to exposure and to time the instant of exposure so that the images would complement one another. Dye Transfer prints were made in parallel with the photographing. The rolls of
color negatives were first contact printed on Ektacolor paper. From the contact sheets I selected the most interesting images. From the set of six or seven negatives of a scene I selected which color separations I would make from which negatives. At first I would make a straight print to evaluate the matricies as all were made to be in color balance. I would then experiment with the color, the simplest change being made by the long used procedure of dyeing the matricies in other of the subtractive primary dyes than they were made for. Only one print of the series is presented in realistic color, that is number one. As experience was gained many special color dyes were mixed from the original set and these were modified during the printing of an individual image and later often changed for another image. Many contrast adjustments were made using standard Dye Transfer procedures.

As the work progressed the printing became more and more exciting. Some of the prints have seven or eight transfers, each modification previsualized until the printing was more like painting than photography. Several prints were made from each set of matricies, some images, usually with distracting elements such as a tree limb were eliminated. The final prints are, however, one of a kind. It would have been quite impossible to duplicate most of them even at the original printing session and since I discontinued attempting to record the printing procedures, feeling more free that way, I couldn't have remembered what to do at a later time. I derived considerable pleasure from working in this manner.
The slides of the prints which are included in this report have a characteristic higher contrast than the prints Made on Ektachrome-X film their contrast was reduced from normal by shortening the First Developer time but is still too high. The reproductions are numbered in the order the prints are normally hung and roughly in the order in which they were made. There is an evolution evident which took place as experience was gained, in part I desired to subdue the color and get further from the standard primaries. The dye techniques which started to be used here and which were carried through the snow series of Chapter two will be covered in more detail there.
CHAPTER II
The Ten Photographs of Series II
This series is also untitled but depicts a certain universality of form through patterns in snow. These patterns are again related to motion, the motion of particulate matter as influenced by the movement of a carrier medium. The patterns might have been made variously in sand, smoke, vapor, dust, stars, interstellar dust, any number of materials affected by a host of possible forces. We see them preserved as fossils of ancient wind blown sands in our sedimentary rocks.

These negatives were made more or less in parallel with those of the water of the first series. There was some thought of a similar imagery based partly on blowing snow. Some of them were made in series with this in mind. Pattern, however, become the dominant theme according to the above speculations and no blowing snow prints were attempted.

In order to preserve the idea of the universality of these patterns it was obviously necessary to eliminate their inherent snowiness. Abstraction of the primary realistic characteristics became paramount. Again, non-representational color, not simply "not snow" but not particularly suggestive of any real object. In other words- fantasy color- what might have been in a different world. In another world, however, the patterns would remain. The essence of their universality as governed by essentially immutable laws of nature.
The element of perspective depth in the snow patterns was considered undesirable. Of the many photographic means of diminishing such perspective I envisioned value masking to be especially suitable as a considerable degree of control can be exercised. This entails a masking procedure in which a positive image is combined with the negative image or vice versa. Any number of procedural variations are possible, the one which evolved here is unique so far as I know.

Rather than some sort of positive masking of the small (35mm) negative I preferred to work with the full size image. This was parallel to my approach to a number of previous serigraph images. Thinking similarly in terms of printing, it seemed logical to plan to print from both positive and negative images. The normal Dye Transfer matrix being a positive image, the negative matrix takes the role of mask. A rather direct plan was then formulated to make a single positive matrix and from it print the negative matrix. A broad range of density/contrast relationships could be controlled and any number of special matricies could be made to control the final image.

Experimentation with positive/negative density/contrast relationships ensued. Evaluation was made of the matricies themselves viewed by transmitted light and in printing. Printing included trials with color, multiple printing and all the various printing controls available in this process.
One problem arose early. I attempted to print the negative matrix (by contact) onto Matrix Film rather than Pan Matrix Film but was unable to control the characteristics sufficiently well. This was most likely a result of the great difference in appearance between the two films. Pan Matrix Film produces a fairly heavy dark blue image while a Matrix Film image that would print identically is very faint and yellow-brown in color. The difficulty was eliminated quickly when Pan Matrix Film was substituted. Tests and full size positive/negative relationships were quite easy to evaluate and their printing characteristics could be visualized in relation to color ideas with considerable predictability.

Each image became an individual entity but the techniques were generally similar as required to ensure coherence in the appearance of the series. Generally the green record of the color negative was printed on the Pan Matrix Film using a Wratten Gelatine Filter Number 99. This was selected because the magenta dye image in the negative generally has good contrast and the finest grain. It should be noted that black and white negatives could have been used if pre rather than post visualization had been involved. Because the snow scenes were low in contrast the matrix contrasts were kept high by using a Tanning Developer ratio of A:B=1:6.

Negative matrices were made by contact in a Kodak Register Print Frame using the enlarger as a light source.
Contrast control experiments included printing with red (Wratten #29) and green (Wratten #99) filters and varying the Tanning Developer ratio. Most of the final negative matricies were printed using only a Wratten #96 1.00 Neutral Density Filter to adjust the exposure time to a comfortable level. For most of these images the Tanning Developer ratio was A:B=1:6 but 1:1 and 1:2 were also used.

Printing consisted firstly of mixing special dyes from either the Kodak dyes used previously for the water prints or mixes made from French's Food Colors. The original dyes available at the start of printing the water matricies were subtractive primaries (Cyan, Magenta and Yellow) of normal, high and low contrast according to Kodak. There was also a set of additive primaries (Red, Green and Blue) whose contrast was adjusted as desired. Two near neutral dyes, one slightly warm the other cool had been mixed. The five non-standard dyes were simple mixes of equal amounts of the subtractive primaries as required for the individual colors. The food colors were made up of one vial (about 12ml) per liter of distilled water and acidified with 20ml of 28 percent acetic acid. These were the straight Red, Green, Blue and Yellow. The mixing procedure was by guess and quite satisfactory. The special colors used for the water prints had been mixed by eye from the above and were further used for this set of prints in a similar manner. None of the dyes were retained in the form used for a given print nor were
records kept of printing controls. Rinse bath treatments, redyeing, double transfers and such were used along with dye modification on a cut and try basis until the final print procedure was worked out to obtain the desired result. Each print evolved to final form, no duplicates were desired or could later be made. Number one of the series was the only one to use three matricies, a previously discarded too-thin matrix was called into service to print a high contrast accent. Number nine was printed slightly out of register by shifting the paper just a bit (a few attempts) between positive and negative image transfers to obtain the optical effect of repetition of the color variations over closely spaced lines.
CHAPTER III

Conclusions

This Thesis Project was one of my most rewarding and exciting learning experiences. The most important aspect was the continued concentration over an extended period of time toward achieving a challenging goal.

For me it was a long reach in a direction of imagery in which I had little practical experience, it would have been useful to have had more earlier preparation. The project would have been too demanding if I did not have the technical understanding and practical background of many years of study and work.

Every project of a creative nature is just a beginning. This one has suggested many future paths to explore and has provided a guide for the early steps in such exploration. Each print made in these series led to the next, some later ones led me back to redoing an earlier one but one has to decide when to get out of that vicious cycle. I am more pleased with the Series II prints than with the Series I, I think this is as it should be and continue to strive that the next thing I will do will be the best I have ever done.

For me these prints have achieved their goal. They stand for the essence of the idea and feeling I have for the subject matter in a very personal way. I see no way that any number of others can possibly understand them the way I do without verbal explanation. That explanation exists only in this report and is something I keep otherwise to myself.
The greatest meaning in every image will be for the image maker. Communication will exist only so far as the image maker and the viewer can share their life experiences through the image. Beyond that each viewer will take his own trip, read his own personality, recall his own past. I hope that these images are interesting enough as images outside of my meaning for them to trigger something like my pleasant emotions when they are viewed by others.
1. Publications directly involved in accomplishment of the Thesis Project. Note that all of these are frequently updated and anyone using this for reference should acquire the latest edition.


(Rochester Institute of Technology). The Bachelor of Fine Arts Degree in Photography. (Rochester, New York: Graduate Committee, School of Photographic Arts and Sciences, College of Graphic Arts and Photography, Rochester Institute of Technology, circa 1979)

Turabian, Kate L. A Manual for Writers of Term Papers, Theses, and Dissertations. Chicago: The University of Chicago Press, 1987

(The Editors) "A Footnote The Karte Clicker" ImagePhotographyMagazine, 1974, p. 87

Note: Subsequent entries were obtained from my personal library or through the Internet. They are not used as sources or references in the project. I have not used other than these sources to select such as a few copies of books and articles from libraries. This section is not related to the direct relation to photography. It relates to the related "art" libraries of the university. There are a few books which I consider not to be especially related to this subject.

3. Technical books of interest located by the author and the printer.

BIBLIOGRAPHY

1. Publications directly involved in accomplishment of the Thesis Project. Note that all of these are frequently updated and anyone using this for reference should obtain the latest editions.


(Rochester Institute of Technology). The Thesis—Master of Fine Arts Degree in Photography. (Rochester, NY: Graduate Committee, School of Photographic Arts and Sciences, College of Graphic Arts and Photography, Rochester Institute of Technology, Circa 1970)

Turabian, Kate L. A Manual for Writers of Term Papers, Theses and Dissertations. Chicago: The University of Chicago Press, 1967


Note: Subsequent publications are selected from my personal library as stated in the introduction. They are given here as examples of readings which have been an influence on me as sources of information or inspiration. This is a highly select list as I have read a great many more of my own and from libraries. It is deliberately limited to books with a direct relation to photography but could not include closely related "Art" (picture and history) and psychology/perception books which I consider also to be of interest and importance.

2. Technical books of direct interest to the Dye Transfer printer.


3. Technical books of general interest to the involved color photographer, the first listed is especially recommended for general information and being not too difficult.

Evans, Ralph M. Eye, Film and Camera in Color Photography. New York: John Wiley & Sons, 1957


4. Older practical and history books with valuable information on assembly color printing, imbibition processes in general and the Kodak Wash-off Relief Process which preceded Dye Transfer.


Spencer, D.A. Colour Photography in Practice. London: Sir Isaac Pitman & Sons Ltd., 1938


5. Some classics of color theory and color perception.


6. Some of my favorite books on the ideas of art and creativity.

Moholy-Nagy, L. Vision in Motion. Chicago: Paul Theobald, 1947


