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ROSHESHTER INSTITUTE OF TECHNOLOGY

A Thesis Submitted to the Faculty of
The College of Fine and Applied Arts
in Candidacy for the Degree of

MASTER OF FINE ARTS

THE VISUAL BOOK

by

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INTRODUCTION

The thesis project was constructed around a desire to work with a specific kind of imagery generated through the use of certain technical processes and to explore the expressive possibilities of the visual book. The techniques of color separation photography and hand lithography used in the project's production were completely new to me prior to this undertaking. I was curious to learn more about them and felt their incorporation into the project would afford me an opportunity to gain their familiarity. My background in handprinting and the book arts was undoubtedly an important influence in choosing to incorporate the element of craft into the structural fabric of the project. Indeed, attaining the degree of craftsmanship necessary for presenting an aesthetically pleasing artifact was part of the challenge of using these production techniques.

I could have chosen any number of ways of exploring the visual book. Though I do not discount the formal qualities which these photo and lithographic techniques exhibit, visualizing the conceptual content could have been accomplished by other means, and perhaps more effectively so. However, because of the strong conceptual nature of the project, its medium is and never was intended to be its message. The formal qualities serve as a vehicle through which that message is expressed.

As the project progressed, I found the technical hurdles of production becoming far more burdensome than I had anticipated--so much so that they soon began to interfere with the expression of the concept. Because I lacked a reasonable amount of technical facility which would have enabled me more freedom to comfortably work with the processes of production, I feel the suite of nine prints to be an attempt at documenting the statement I wished to articulate and shall be elaborated upon as such in this report.

MAJOR VEHICLES FOR VISUAL EXPRESSION

Dot. Singularily, the most minimal visual element. In quantity and in specific configuration, it composes the imagery of the thesis.

The notion of building, using extremely simple elements of like shape which when combined are capable of forming endless visual patterns of varying complexity, has consistently interested me. My first acquaintance with this style of rendering began with using the pointillist technique of pen and ink drawing. This technique allowed a wide range of expression in terms of manipulating the degree of image detail. One could make a drawing tonally complex or suggestively simple. However, the rendering remains curiously noncommitted. Unlike the emotionally charged expressive possibilities of the brushstroke or the pencil line, the dots have to be made with calculating care and thus, do not communicate much beyond variations in density.

My interest in this rendering style still remains but I have since found a different means with which to express it. Instead of applying the dots with pen and ink, I use graphic arts photography. With respect to the style of photography used to produce the thesis project, this style of dot rendering is commonly referred to as the random dot. "Random" simply indicates that the dots are arranged according to the "grain" or silver halide structure inherent in the emulsions of continuous tone panchromatic films, rather than a prefabricated half-tone screen with dots aligned along a horizontal-vertical grid structure. However, both forms record density ranges in equally specific ways. The half-tone changes the size of each dot in its grid structure corresponding to the changes of density in the image, whereas the random dot structure increases or decreases the concentration of dots to represent tonal changes in the image, as is also the case with pointillist pen and ink rendering.

As I had always in the past worked with these "grainy" images in black and white, the possibilities suggested by color added a new and intriguing dimension. I was familiar with color separations in print material and could readily envision using the basic principles applied there in my own imagery. Besides the latitude of possible expression in the value ranges between black and white with random dot photography, was the added range of hues and tints. As with the "building" notion expressed in the configuration of dots into patterns, I was also interested in mechanically layering three or so colors on top of one another which, by the overlapping of their transparent bases, could render a limitless variety of other colors and in turn, more complex patterns. Using techniques described in the Appendix, I could control the color balance to suit my needs and desires.

Accurate representation of the actual photographed subject was never my intention in making the photographic color separations, just as using photographic images to represent reality was not my intention in using recognizable objects such as shells, grass etc. However, the objects I selected to include in the imagery were chosen in part for particular color, texture and/or formal qualities that would relate well to the thematic content when arranged in a composition.

Juxtaposing many images on the same field became the third major vehicle of expression. The dot created the basic structure, layering three sets of specific dot patterns in registration created the complete individual image in color, and the combining of separate color images in a composition created the single moment or fragment of the image sequence.

In addressing this latter method of expression, the main focus is on edge treatment. Any time an image is juxtaposed to another, they are related, not only by their colors and textures but also by the qualities and proximity of their boundaries in relation to the ground. Mechanically speaking (see Appendix), the images were collaged. I say "mechanically" because to make the final negatives, the images were positioned, overlapped and otherwise manipulated through the use of photomechanical masks, pin registration and contact printing techniques. In short, the collaging was an "activity" or step in the process of

producing the final imagery, wherein separate images were overlapped or adjacently positioned to one another. Thus, I do not consider the final imagery to be a collection of collages, though the edge quality in certain instances is collage-like.

Both hard-edge and soft-edge treatments were used. Opaque images are bounded by a hard edge. In other words, any overlap into another image results in partially covering that other image, giving the impression that one image is "in front of" the other image. An image bounded by a softened edge usually does not touch another image. If so, the soft-edge image usually serves as a secondary ground for an overlapping hard-edge image or it is blended into another soft-edge image.

The most common method of combining images was to bound them by a hard edge and overlap. This method not only proved to be technically more accessible (an instance of technical procedure directing the course of visual expression) but also more aesthetically successful in certain respects than most attempts at blending images. Combining many images, some of which overlap parts of others, creates a sense of dimension which tends to imply movement and in turn, holds the composition together. Such a composition contains a feeling of depth which invites the eyes to "enter" and be encompassed by the imagery rather than to pass over and off the surface, as is more the case with blended images.

Blended imagery alludes to this kind of movement in the dark and light contrasts of the imagery itself, not in the juxtaposition of images whose outer dimensions blend into one another. However, blended imagery implies movement through suggesting some sort of change or metamorphosis from one thing into another, or blending two separate units together into a third component. The change implies a shift in condition, a visually dynamic but physically static state. Something is happening but it is not *happening....*

A different kind of visual dynamism prevails within a field whose imagery are spacially separated by the ground. Movement is implied by the suspended quality of imagery seemingly floating in space with the ground as the backdrop. The suspended quality almost takes the form of a snapshot-- a frozen moment extracted from a constantly changing reality. Directional forces such as those of proximity help maintain the separate images as part of a coherent whole. However, the composition derives its implied motion

from the degree of proximity being that in which the greatest amount of tension presides.

Each composition was contained within an image field of 7 x 9½". The area was chosen because I could use 8 x 10" ortho film during production which kept supply costs within my budget. Since the project was my first attempt at working with the technicalities and visual hurdles inherent in color separation and photo-lithographic processes, the size seemed appropriate for preliminary visualizations of my developing ideas. It was also a size which seemed both large enough to work in detail and intimate enough for me to feel I was working in the sketch or study mode.

The image area boundary imposes its own hard edge on any imagery which intersects it. The formation of this boundary in any given composition depended on the respective thematic content, to be more fully described in a subsequent section of the report. However, the images were freely situated within the area. In constructing the compositions, there was never any inclination to define a specific amount or configuration of boundary. However, in those compositions with incomplete image area boundaries, all four edges are to some extent defined: the area is then optically "closed" into a shape consistent with that of those compositions whose four boundaries are completely defined.

Though the rationale for using partially defined versus fully defined boundaries is directly tied to thematic content, a few words can be said concerning the consequences of each treatment. In those compositions where the four edges of the image area are fully defined, the boundaries impose themselves in a rather restrictive fashion on the visual elements of the composition. One senses that the boundaries are arbitrary in that visual elements are neatly cut off rather than that the composition is made complete by their inclusion. This latter sensibility seems to be apparent in those compositions with incomplete boundaries, perhaps because the hard edges are less noticeable and therefore, less imposing. The free flow of negative space from outside the perimeters of the composition, into and through the composition itself, helps define the subtle quality of incomplete boundaries by relegating the image area to that of an element of lesser importance in the compositional hierarchy.

Nine distinct compositions were produced on separate sheets of paper. The compositions are intended to be viewed as an entire group in a specific order determined by the thematic content. The ideal method of viewing is to arrange the prints edge-to-edge in a horizontal direction so that all nine sets of images are immediately perceivable without the viewer having to physically interact with the work (ie: turning one print over to disclose the next).

Perhaps because of my previous work with handprinted books, I naturally think of a new project as being a "handprinted and limited edition". Since my imagery is most commonly photographic, to see the finished result I either have to proof the image as a comprehensive or print it. I knew I wouldn't be satisfied with working the thesis project to the comp stage. I wanted the visuals to at least take on the appearance of being "finished" even though I knew that conceptually, they would barely represent a start. A "finished" image in terms of this project meant a printed one. Though I knew nothing of the technique of hand lithography, I knew its application would be financially and technically suited to the printing of random dot color separations besides providing me with an opportunity to learn an unfamiliar printing technique.

I used hand lithography as a means to generate a printed form of my already composed images. The craft aspect of producing a consistent edition as well as learning the technicalities of the particular kind of lithography used to produce the project, were as far as my interests in this kind of printmaking were to go. I was not using lithography as an art form nor as anything more than a recording device--a way to apply ink to paper, a tool. In those instances where the hand litho process did show evidence of itself, such as the occurrence of ink scum, mis-registration or changes in ink density, I consider such prints waste as they are not accurate representations of the compositions.

I wanted the edition to be a small one. My time limitations in the lithography lab made this choice a requirement. However, a small edition also seemed to be a less presuming display of compositions which were addressing some of the more basic issues of the visual book.

Irregardless of any limitations or rationalizations, printing copies was the most enjoyable part of the thesis production process. The thrill of seeing many of what I had previously only imagined was justification enough for making more than one of something that is hardly "finished" at all. Twenty copies of each print were executed, ten good copies were expected, five good sets were the result.

CONCEPTUAL STRUCTURE OF THE BOOK

I call the thesis project a visual book.

Books are stored on a bookshelf. Standing with spines perpendicular to the ground like soldiers and facing forward, they brace themselves against one another, aided in part by the bookend. Take a book off the shelf and one is immediately confronted by the relative importance of it. Hard covers are by far more important than soft covers. They give the book a feeling of solidity; of something that is built, bound, a structure with hinges and boards, implacable, enduring wood. As the book is held in the hands, fingertips ride over embossed hills and valleys, sink into the crevice of the joint, compulsively seek the last breath of amiable leather, or plastic's passive cool, the variegated coarseness of cloth, or ubiquitous, tenuous paper. The eyes confirm what the fingers have discovered, discern patterns and colors on the cover's surface, the glint of gold leaf, and in the process assess the size of the book. Large books are more important than small books. Hands and fingers wrapped around three sides note the book's mass and may argue with the eyes' assessment if the weight of the book does not relatively conform to its size, for heavy books are the most important of all.

Having succeeded a proper introduction, the book's personality realized in full view necessitates a more formal and complete acquaintance which begins by lifting the cover. Resting with back cover flat against the tabletop or spine securely seated in the crux of one hand, fingers press against the thickness of the cover and pull it up and away from the pages enclosed beneath, measuring weight and resistance as the cover is pivoted on its joint to the open position. The movement is all too effortless of a cover that flops open with just a touch, it requires a steady pull to flex the capacities of a supple joint and forces glue to crack and buckram to groan in a particularly cantankerous bind. Aromas of new or old, of glue, paper and ink begin to escape. The eyes cast a passive glance at the endpaper, first encounter with the interior. The endpaper is white or of a particular color, perhaps passively decorated. The hand glides across its surface, searching for the texture that will complete the perception. A finger or two catches the paper's edge, lifts it up and in a whisper, the page is turned. Assessment of the enfolding personality is confirmed or revised.

The next page may be of a different color and if not, perhaps then of a different material, to which the fingers can confirm. It may be blank or it may contain the half-title, the quiet lead-in to the title page or it may be the title page. The fingertips pass over the surface on their way to the page's edge, feeling the texture, the cool or warm, hard or soft of it and then grasping the page, rubbing its thickness between the fingers, lift it up and over. The page may turn with a quiet whir or voice vehement protest with all sorts of buckling and popping noises. The eyes look upon the next page and when finished, the hand passes over it, grasps and turns, the ears hearing what they may. The repeated order of seeing, touching and hearing establishes a rhythm which runs continuously throughout the viewing process.

Once the end of the book is reached, the eyes are granted a rest with more blank or passively decorated pages before the book is finally closed, the task of reading complete. The book is then returned to its place on the shelf, standing erect and facing forward. Having offered the many faces of its multifaceted character, it patiently awaits a new or reacquaintance.¹

In Western culture, when one thinks of a book, a mental image of the codex format most likely comes to mind, as was probably the case when reading this essay. The modern codex bind is that of any standard textbook--pages folded into signatures which are stacked and sewn together, and enclosed between two covered boards which hinge from a spine. In principle, it is any structure in which the pages and cover are secured along one edge, such as paperback or "perfect" bound books, spiral and ring binds.

This structure was developed by the early Christian peoples for political and practical reasons. They wanted to distinguish themselves from the Romans whose sacred writings were enclosed in scrolls. They also needed a structure which would render their own sacred writings immediately accessible, as these writings were used for reference instead of continuous reading.

The Latin word *codex* originally meant "the trunk or stem of a tree", referring to anything made of wood. Later it became the name for wooden tablets strung together in groups of two or more. When parchment began to be used in page form (as opposed to scroll form), groups of pages tied together in most cases referred to as *liber*, were eventually

¹Candace Lorimer, No. 24, (Indianapolis: Candy-Ass! Publishing, 1983).

called *codices* when the contained manuscript was any collection of laws or constitutions of the emperors. The term was used by the early Christians to identify their sacred writings but did not become popular until the fifth century, at which time the structure for enclosing these writings was firmly established. The growth of the Christian community in the West during the first and into the second millenia popularized that particular format for both religious and secular writings.¹

Today, "codex" refers to a volume of biblical or classical text in manuscript. However, bibliophiles, bookbinders and book designers respectfully call any crafted object that functions like those which enclosed sacred codices in Medeival times, a codex--or more properly, a codex bind or a codex format.

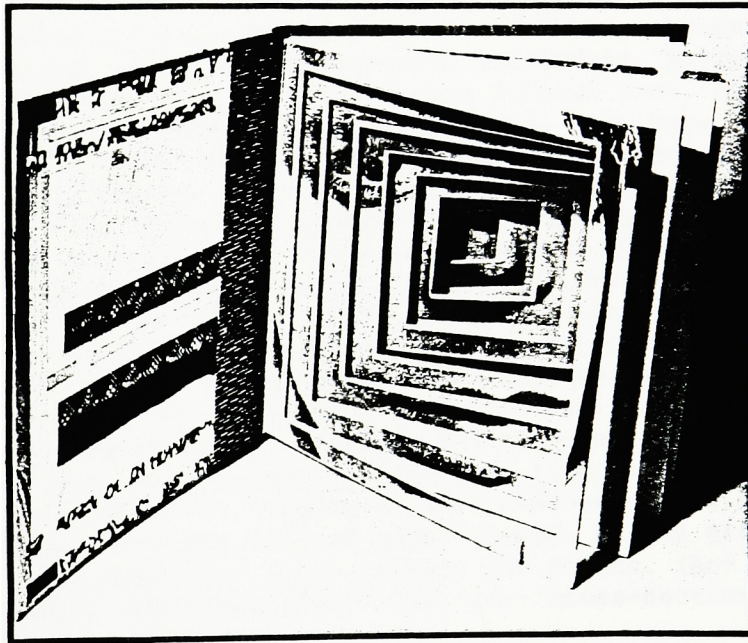
Before the spread of industrialization, the object in pre-industrialized cultures that commonly served the same function as the codex format took a variety of forms, employing materials indigenous to the respective goeographic location and time period. In this sense, "function" means the presentation of a body of written language substantial enough in length to necessitate containing it in a convenient to use and somewhat portable package or handcrafted structure.

Many ancient peoples had their books and their libraries but, unfortunately for us, wrote their texts on perishable substrates. Specimens of one of the earliest book formats known to us, the Egyptian papyrus scroll, though made from very degradable material were preserved by the encapsulating Egyptian sand. Another very early book format is that of the Mesopotamian clay tablet books. Though it was impossible to physically connect a set of clay tablets to one another, all tablets of a series were numbered and labelled as to the title of the book to which they belonged. The Agram document, the only extant Etruscan manuscript which could be considered a "book" was written on fifteen strips of linen wrappings from an Egyptian mummy. In India, Burma and Siam, Palmyra and Talipat palm leaves were used as a writing substrate, strung together and attached to a board or folded like a fan. The Bataks, living in Sumatra, made accordion books from long strips of bamboo which were welded

¹David Diringer, The Book Before Printing, (New York: Dover Publications, Inc., 1982), pp. 35-36.

by beating them together and then folded accordion fashion and attached to wooden covers.

In contemporary times, technology and mass production have synthesized the activity of producing books into that of function-specific machines capably and efficiently churning out a few variations of one basic style. The basic style is the codex format and the variations are all the paperback, signature sewn, saddle-stitched, spiral bound, perfect bound, casebound and hardbound "books" common to anyone's recollection. However, there are those individuals who use the book as a medium of artistic and hand-crafted expression. Such productions generally emphasize the physical qualities of the book and sometimes incorporate these qualities into the content of the text. Their structures range from visual interpretations of the codex and accordion binds to environments (wherein one literally "walks through" the book) to book objects bordering on sculpture.



Keith Smith, *Book 70*, 1978. Single picture composed as a book.¹

¹Keith A. Smith, The Structure of the Visual Book, (Rochester: The Visual Studies Workshop Press, 1984), p. 81.

That these formats are "books" (in contemporary and popular use of the term) is irrelevant. A stack of blank pages which has no immediate function, sewn down one side, enclosed between hinged boards and sold in any stationery store is commonly called a "blank" book. The conventions of popular word usage, being synonymous with diluted clarity, misaligned meaning and other such barbarisms of the word, are often and too easily the manner in which we speak when referring to something as accessible to the imagination as the book. However, what the imagination sees but most likely fails to recognize is an underlying structure.

Of patterned energies; and first, Buckminster Fuller on knots. He grasps and tenses an invisible rope, on which we are to understand a common overhand knot, two 360° rotations in intersecting planes, each passed through the other:



Pull, and whatever your effort each lobe of the knot makes it impossible that the other shall disappear. It is a *self-interfering pattern*. Slacken, and its structure hangs open for analysis but suffers no topological impairment. Slide the knot along the rope: you are sliding rope through knot. Slide through it, if you have them spliced in sequence, hemp rope, cotton rope, nylon rope. The knot is indifferent to these transactions. The knot is neither hemp nor cotton nor nylon: is not the rope. The knot is a *patterned integrity*. The rope renders it visible. No member of Fuller's audience has objected (he remarks) that throughout this exposition he has been holding no rope at all, so accessible to the mind is a patterned integrity, visible or no, once the senses have taught us its contours.

Imagine, next, the metabolic flow that passes through a man and is not the man: some hundred tons of solids, liquids and gases serving to render a single man corporeal during the seventy years he persists, a patterned integrity, a knot through which pass the swift strands of simultaneous ecological cycles, recycling transformations of solar energy. At any given moment the knotted materials weigh perhaps 160 pounds. (And "Things," wrote Ernest Fenollosa about 1904, are "cross-sections cut through actions, snap-shots.")

So far Buckminster Fuller (1967). Now Ezra Pound (1914) on the poetic image: "...a radiant node or cluster; ...what I can, and must perforce, call a VORTEX, from which, and through which, and into which, ideas are constantly rushing." A patterned integrity accessible to the mind;... For the vortex is not the water but a patterned energy made visible by the water.¹

¹Hugh Kenner, *The Pound Era*, (Berkeley: The University of California Press, 1971), pp. 145-146.

The book is not a specific style of physical object but a structure made visible by a format. Physical objects which are called books, in all the countless forms which that ingenuous human faculty has or could possibly procure, share a distinction which defines them as books. They may also exist partially or completely in other categorized realms of creativity such as film, architecture, sculpture, photography etc., but the label "book" commits these objects to the parameters of this distinction.

The distinction can best be described as a seemingly anti-thetical construct; visual material imposed continuously on a discontinuous surface or, as pertains to the scroll format, a surface made discontinuous by a particular convention of viewing (partial unrolling, revealing a portion of the text at a time).

The undeniable characteristic of the discontinuous surface as a dominant feature of format is obvious to anyone who, after having seen codices or scrolls displayed under glass, came away feeling cheated, having been taunted with just a glimpse when there was so much more to be viewed. This method of display may allow more individuals simultaneous viewing of what is being shown, but experiencing such formats in their entirety is better if the experience is a solitary activity, necessitating the physical participation of the viewer to "look through" the book at a pace and direction in accordance with her or his particular energies of attention. Books are experienced in intervals of time and space defined by the page. There is a beginning in one place and an end in another.

The spatial order in most common formats of the book is easily recognized as being discontinuous, as in the above example. The structure of the codex bind is such that one cannot view the entire book at once but must view successive pages or page spreads individually. Accordion books may be viewed like a codex or opened out completely, wherein the discontinuous surface is maintained by the folds in the paper. Other more unusual book formats such as book environments, generally use a combination of edge, border or some sort of spatial separation of the elements to create the discontinuous surface.

Besides being "looked through", the book must also be looked at. A book is not just a package, like the blank book mentioned previously.

The hand-held book, because of its structure, requires the viewer to physically participate in the viewing process. Yet, a stack of blank, bound pages renders this obligation meaningless as there is nothing to view. The pages might as well be stacked and padded into scratch paper. If the binding of a blank book is beautiful, then it is a beautiful example of binding. However, a binding alone does not make a book.

Codex bindings were developed during the early Middle Ages, a time when the texts of most books were sacred. Since texts were laboriously handwritten before the mid 16thC., they were understandably very rare and expensive items. Enclosing the pages between leather covered wooden boards was necessary to protect the valuable manuscript from damage or disorder. The practice of adornment of both the text itself, called illuminations, and the text's binding, incorporating inlaid jewels, carved and gilded ornamentation into the structure, was considered an expression of devotion to God by symbolizing the sacredness of His word with an extremely precious artifact. Thus, the art and craft of book-binding developed *in response* to the enclosed content, not in lieu of it. That is not to say that the binding cannot be a part of the content. Indeed it can and should, but a valid reason must still exist for ordering the enclosed pages in the manner which requires one particular bind over another, if any kind at all. Otherwise, the bind becomes a superfluous and possibly misleading element, as is the case with a blank book.

In certain kinds of texts, the theme is complete, without need of the support of visual display. Literary manuscripts are an example. The content of the book is the ideas contained within the text--not the visual appearance of the text. A standard dictum in book design for this kind of text is that the typography should be invisible to the reader. Such a presentation obviously emphasizes legibility over all else.

There is however, a grey area where book design leaves off and typography begins, or vice versa. On the one hand, each page should look unobtrusive. The seemingly arbitrary breaks in the text at the end of each page should not be noticeable to the reader. This is partly due to the convention of reading typographic books which we are taught from day one but it is surely assisted by continuity of the layout. If the text on each page has consistent margins (lines start and end at the

same respective positions) which are well balanced to the eye and if the text is comfortably sized and aligned, then one does not seem to notice that one has to move the eyes from page to page which creates interruptions in the text at points determined by the designer--not the author.

On the other hand, part of the typographer's art is to image the feeling of the book using types of a particular style, size and arrangement. As certain styles of text types are considered good book types because of their legibility, and the layout of the page is usually determined by length limitations (especially with commercially produced books), freedom of expression with the text material is often not possible. The title page becomes the typographer's expressive contribution, other pages with titling usually following the conventions established on this page. But since the title page should look as much a part of the book as any text page, the typographer walks a thin line between over-expression and nonexpression.

At the other end of the spectrum, some texts are purely visual. Just as written texts are composed using certain grammatical and syntactical guides, so are visual texts composed with their own guides. Visual implies physical through the function of the sense of sight as an information channel from the environment to the brain--much different than the function of words. Visual texts tend to incorporate physical qualities such as textures, colors and dimension into their content. Thus, the actual surface upon which such texts are imposed is fair game for being integrated into the text itself. Unlike the literary manuscript mentioned above, the visual text depends on the physical structure of the book's format for partial or complete expression of its thematic content.

All texts, whether literary or visual, have a theme or central idea which contains the text in a more or less consistent whole. The theme is rarely stated outright but is instead, implied or suggested through the organization and content of the parts of the text. The text is generally organized on one or a combination of three types of structure: group, series and sequence.¹

¹Keith A. Smith, The Structure of the Visual Book, (Rochester: The Visual Studies Workshop Press, 1984), p. 45.

A group is a combination of many separate parts which share a common characteristic, such as a collection of botanical prints or a poetry anthology. A series is a linear progression of separate parts which depend on the parts preceding to give form and coherency to the succeeding parts, such as the metamorphosis of a caterpillar into a butterfly. A sequence is a constant building of separate parts which depend on a specific order of presentation to successfully express the intended theme, such as music.

When a theme has caught the composer's attention, "it becomes larger and larger, and I spread it out more and more widely and clearly, and the thing really gets to be almost completed in my head, even if it is long, so that thereafter I survey it in my mind at one glance, like a beautiful picture or handsome person. And I hear it in my imagination not in sequence, as it will have to unfold afterward, but, as it were, right away all together (*wie gleich alles zusammen*)."¹

From a letter of 1789, attributed to Mozart but probably not written by him in this form.

Often a series and sequence exist in combination, such as a literary manuscript where though the separate words are serially organized to form sentences and sentences organized to form paragraphs, each paragraph is a separate idea which builds sequentially to suggest the central theme of the entire work.

In a general sense, the text becomes a book for reasons of practicality and function. It is usually too long to be conveniently and legibly contained on a single surface, and/or part of its meaning is derived from it being segmented onto many surfaces. However, to be good book material a text must be capable of being visually arranged over many surfaces without changing or confusing the theme. The visual display should, if anything at all, facilitate the reader's perception of the theme. It should render the text *continuously* on a discontinuous surface.

A literary text in a codex format derives the quality of continuity from being arranged within an established image area. This image

¹Rudolf Arnheim, Art and Visual Perception, (Berkeley: The University of California Press, 1974), p. 374.

area determines the consistent placement of the text block on every page. Consistent placement of other items on the text page, such as folios and running heads also help the eyes overcome the interruptions of the bind and page-turning during reading.

The quality of continuity of a visual text is achieved through the application of the basic elements of visual communication: the dot, line, shape, direction, tone, color, dimension, texture, scale and dynamics, along with using the physical structure of the format. An example of the latter application is the technique of "wrapping" images around an edge of the page in a codex bind. An image is bled off the edge and is completed from the same edge on the verso of that page--taking "continuity" to its literal extreme.¹

Most often however, the quality of continuity is very subtle. One finds its strongest expression during the process of reading the text, becoming familiar with the content as *it enfolds*. By perceiving the work in its entirety, one becomes aware that whatever its structure, the text has a definite inherent order; a beginning, middle and end. This order tends to create anticipation in the viewer when the text is read part by part. Even with those books wherein one is invited to shuffle the pages thereby creating all sorts of different texts, if one reads the entire text after each shuffle, the content will still unfold in the same way. Though its meaning may change considerably, anticipation of what interpretations might result will carry the reader through the text. Thus, the continuity of the book's content not only depends on the visual presentation of the text but is also largely due to the enfolding quality of the text itself, made noticeable during the reading process.

¹Tom Raworth, Logbook, illus. Frances Butler, (Berkeley: Poltroon Press, 1976), pp. 291-444.

STRUCTURE OF THE THESIS PROJECT

The realization that a book is formed through the expression of certain qualities of a rather specific structural order was necessary before the thesis project could be executed. The project's physical appearance is minimal in terms of a conventional codex book. It has no bind, no folds, no blank pages, no title page. You cannot hold it to view it properly; its thickness and mass are incidental. Yet, that these elements were *not* incorporated into the project was a conscious attempt to understand their significance in those examples where they are included.

Given that the text and the format in combination create a book, to what extent do they each participate in creating a complete unit that appears continuous on a discontinuous surface? Addressing this question was seminal in choosing the format for the thesis project-- A stack of blank pages sewn down one side and enclosed between hinged boards would more likely be called a book than a suite of prints hanging on a wall, even though the former has no contained content (except blank) while the latter fully addresses itself to all the conceptual characteristics of any bound manuscript. To the general public a book is any object that looks like a codex format. As a book designer, I fully realize and respect the practicality and popularity of this format. However, having seen numerous examples wherein the codex format created the "book" (as with the blank book) and feeling that such a book was somewhat lacking, I decided to explore the other end of the scale (or somewhere nearby) and attempt a conceptual book, hoping that the experience would in some way strengthen my book design in any form with which I chose to work.

Thus, the format of the thesis project was created first,

though only tentatively so. The idea of a suite of separate prints intrigued me, especially because the format is atypical for a book and would probably not be readily identified as such on the basis of physical appearance alone. The format would also appropriately contain lithographs, a detail of the project I knew would have to be addressed at the outset, along with the use of in-camera color separation photography. But these were technicalities that could be changed or reformed as the need arose. The format was not finalized until after the thematic content was composed. The two elements were then combined and revised, each becoming the compliment of the other. After I felt comfortable with their compatibility on conceptual terms, the creation of the actual artifact commenced. Interestingly, the capacity with which the artifact actually communicated the conceptual content was unknown to me until after the project was completed.

Expressing the quality of content rendered continuously on a discontinuous surface would become essential to the success of the completed project. Achieving this quality would not only guide my eventual formulation of the book's visual display, but in a more immediate sense, it served to inspire the thematic content.

In thinking about the quality of continuity, of something that is *continuous*, I immediately thought of time--but not in the sense of it being some abstract and incomprehensible concept. As continuity or continuous implies action or that something is happening, time was interpreted in the sense of its passing, a kinetic force in a state of constant flux.

My interpretation was very strongly influenced by specific events which had recently made a profound impact on my life--specifically, moving from a relatively seasonless, warm climate (California) to Rochester, where people's lives are defined and regulated by the drastically changing weather. My response to this experience ranged from that of frustration to absolute awe but in any case, I was always intrigued by the inescapable effects the changing weather imposed on the environment and in turn, how the environment could miraculously adapt to any of these effects. Everything seemed so incredibly orderly. One could observe the step-by-step progression of nature, the cause-and-

effect relationship between the seasons and living things.

Observing the constant change in the environment subconsciously reminded me of time. The seasons made time sensorially observable, if not intellectually comprehensible. They transformed it into patterns readily accessible to the mind. Representing the seasons as a metaphor for time became the central theme for the text. It was an idea I felt could graphically express the quality of continuity in the book.

The seasons were not interpreted as being the four separate stages of spring, summer, fall and winter. I saw them as a continuum, one following the other by blending in and fading out. In visually portraying this continuum, the suite of prints inevitably became excerpts: anything approximating a complete portrayal would have made the project too lengthy. I wanted the excerpts or stages to be like moments frozen in time, each at a point during the span of a year which had the qualities of a peculiar intensity, such as the absolute stillness of deep winter or the "awakening" of spring. In essence, the stages were to describe the qualities of my experience at a specific moment.

The overall structure of the theme is serial. Each moment is a link in a metamorphic linear progression. However, the passing of one moment to the next is sequential. Each moment is independent of the others in that it has been extracted from an otherwise continuous happening. Its qualities are unique in terms of contextual meaning and complete in terms of describing that particular moment. Though a quality may be apparent in other moments, the change of context will change its significance and therefore, change the quality. There is no linear bridge that connects one moment to the next in terms of a metamorphosis of any of the qualities which give it form. The passing of one moment to another is a process of building the information of one onto that of the next so that the significancies of all the moments are maintained to the end of the sequence.

The expression of the theme is accomplished by combining the meanings of the separate moments viewed in specific order. A familiar analogy to this structure occurs in film. Assume the camera has recorded a set of distinctly different scenes (the subject matter of each is unique). No matter how different they may seem, when edited into a specific order, the sequence will be coherent to a degree proportionate to the amount of

meaning which one is capable of inferring. A particular order of juxtaposition of the different scenes is necessary for the expression of a specific message. However, the expression is not realized through making linear connections from shot 1 to shot 2 etc. as if they are occurring one after the other, though that is the way they are seen. Meaning is derived from combining the juxtaposed events into a complete unit and then drawing conclusions as to their individual significancies.

Composing the text for the book became a matter of recollecting specific experiences or impressions of the environment that took form in response to the particular time of the year in which they had occurred. The possibilities were infinite but since the field had to be of a manageable and producible size, the text eventually became a collection of nine moments:

1. winter at its coldest, quietest
2. winter beginning to warm, snow melting
3. winter; cold but the snow is gone exposing last year's fall
4. not quite winter--not quite spring, rain, warmer, buds on trees
5. spring bursting forth in a moment--
6. and in the next moment, gone; warming up as summer enfolds
7. summer near its end, hot, muggy
8. fall; abruptly defiant of coming cold, colorful
9. early winter before the snow, tucking-in

Having lived in an environment where there was no winter to speak of, I had the particularly biased opinion that Rochester has a very disproportionate number of cold days to warm days, and that spring, summer and fall existed entirely to recuperate and prepare the environment for winter (the phrase "dead of winter", acquired all sorts of new significancies). Comparatively, Rochester has very severe winters, so perhaps I am not as biased as it might seem. Nevertheless, my opinion of the other seasons being a preparation for winter became a guiding force in determining the point at which the moments were to start as well as the number of moments which represented each season.

Spring and fall seemed to pass in the blink of an eye. Each were accounted for in two separate moments. Summer seemed to be longer than either spring or fall but certainly not as long as winter and was represented in two successive moments. Winter comprised slightly more than four moments, partly because it actually does occur for most of the year in this part of the country but also because its nature seems to make time pass much more slowly than it does during the other seasons, especially toward

April and May when the image of green foliage is but a distant and fuzzy memory.

The most revelatory and somewhat frightening perception of all my recollections is that point during winter when everything is so cold that even inanimate objects appear completely and interminably still, as if time itself is also frozen. That life would ever creep out and overcome such harshness seemed entirely impossible at the time. I felt that this moment would be an appropriate starting point, a place where the sequence could be "born from", as it were.

Since the ninth moment ends where the first moment seems to begin, one might assume that the text is cyclic. Though the subject matter of the theme is cyclic in that time is a continuum perceived of as parts which occur in a constant, repeating order (the seasons), the actual events which take place in time are unique. I wanted the text to communicate the uniqueness of a given moment while still maintaining enough poetic sensibility that each moment would be interpreted as a metaphor for all moments of its kind. It would then allude to the cyclic quality of Nature without actually addressing that quality. Thus, the text is not a documentation of a particular period of time from my past nor is it a record of any sort. It functions more like a quote; a sequence of information that is extracted from an infinite set of specific recollections to be specifically expressive in an infinite number of ways.

The visual presentation of the text attempted to express in part the uniqueness of each moment and suggest its metaphorical significance by using the discontinuous surface to advantage. The text for each moment was singularly imposed on a separate page with an approximate three inch border on all four sides. The pages themselves are unattached to one another, that they may be arranged for viewing in a horizontal row separated by small but equal amounts of space. The horizontal configuration is linear in the sense that, visually speaking, the text has a definite beginning, middle and end. The spacial remoteness of the first and last pages denies an immediate interpretation that the text is cyclic, deferring one's attention to the relationships between adjacent pages. In this sense, one instinctively knows to read from one page to the next, rather than to skip over pages and view them in random order.

I relied on the Western convention of reading from left to right to direct the viewer to the proper "end" at which to start.

The effect of featuring each moment in its own nonviolated, unencumbered and almost excessive space is twofold. The three-inch margins that contain the image area on each page as well as the space which separates the pages from one another, visually identify the nine moments as distinct and somewhat independent units. One can perceive with a minimal scanning that the text on each page is addressing a different subject, as there is no structural feature, except for the linear and proximal arrangement, that physically binds the pages into an obvious whole. This unbound, isolated arrangement also tends to enhance each moment's symbolic quality. Presented in a rather spacious, seemingly unconfined setting, the text appears to speak beyond the context of the format within which it is contained, similar to the formal character acquired by paintings being displayed in a white-walled, austerely barren gallery. Visually represented within a luxurious expanse of unused paper, the text and in turn, the artifact itself become something precious. Assuming the work is of good integrity, this "preciousness" enhances the metaphorical significance of the text instead of tainting it with the flavor of presumptuous overstatement.

Though the extent to which the pages were made discontinuous was necessary for a full expression of the theme, for the project to be a book the text must somehow appear continuous on those pages. This requires a bit of skill as the text must be translated into something that is not only accessible to the imagination but also intriguing to the intellect and true to the integrity of the text. Since I wanted to experiment with in-camera color separation techniques, I knew the text could not be entirely literary. However, as the nature of the text is metaphorical, any literary representation would have had to have been something approaching poetry. As I am more or less a visual artist and not a poet, nor a writer of any sort for that matter, in due respect to those other forms of artistic endeavor, I chose to represent the text entirely in visual terms. Originally, typography was to be included as part of the composed imagery (meaning, that it was not to be used to represent words). However, as work on the project progressed, manipulating

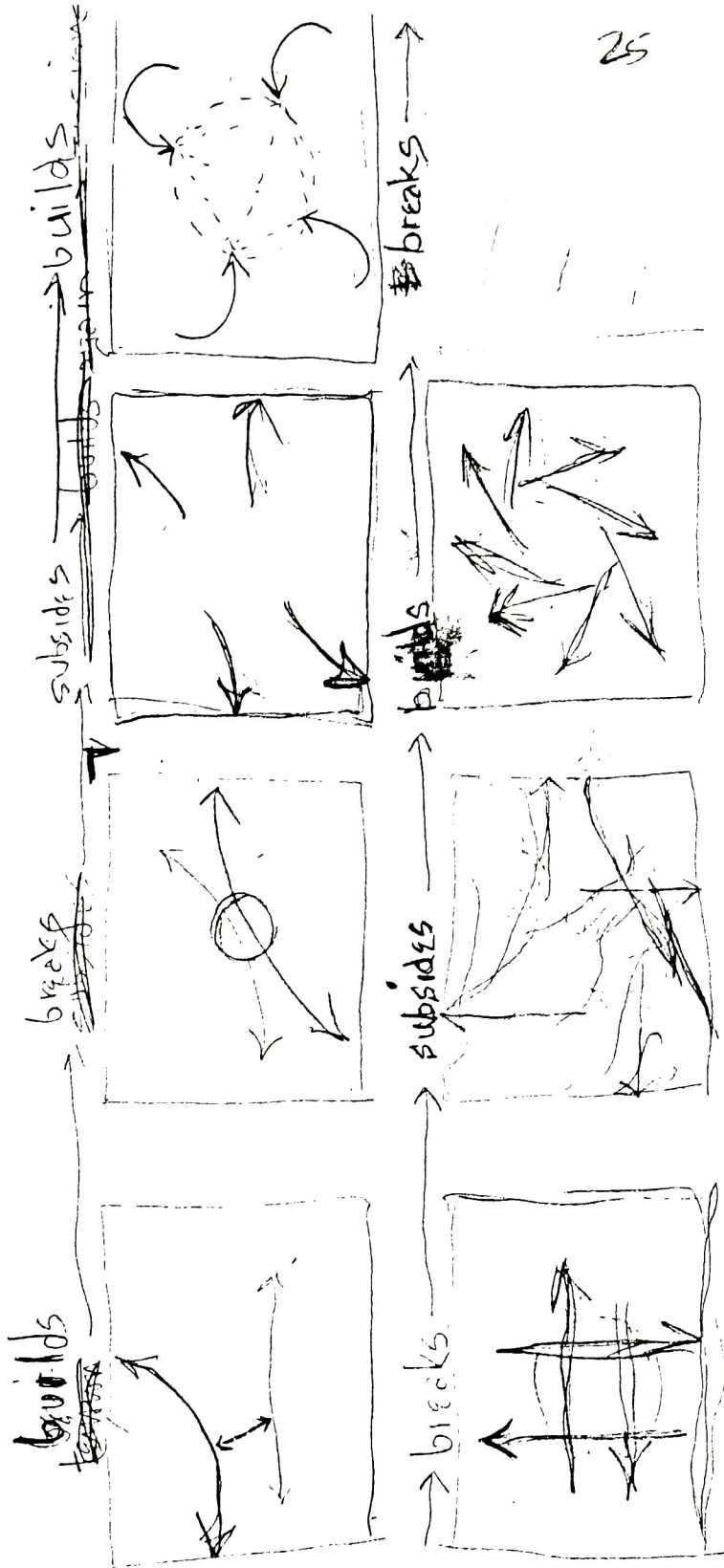
the non-typographic imagery alone provided ample expressive possibilities; the added complication of included typographic elements seemed superfluous.

I had always either drawn my images or combined drawn with photographic images and manipulated them whichever way I chose. I am not unfamiliar with photography but I am also not a photographer. Thus, using photographic processes exclusively as the method of rendering the imagery became quite a challenge. Initially, it was a task of more or less successfully performing a series of technical acrobatics with graphic arts photographic processes in an attempt to achieve satisfactory expression of the preconceived text. I was not to know the full contribution the photographic form of image was to make to the content of the compositions until after they were printed, as it was impossible for me to sketch the color separated images in "photographic" detail.

That I could not preconceive the imagery is important to note because this consequence infused the project with spontaneity, a quality which instigated most of the aesthetic decisions made on the project's behalf. I could not plan every aspect of the compositions. Consequently, my attention was diverted from attempting tight sketches of the compositions to mapping the gestures of the concept itself, with which I was predominantly concerned.

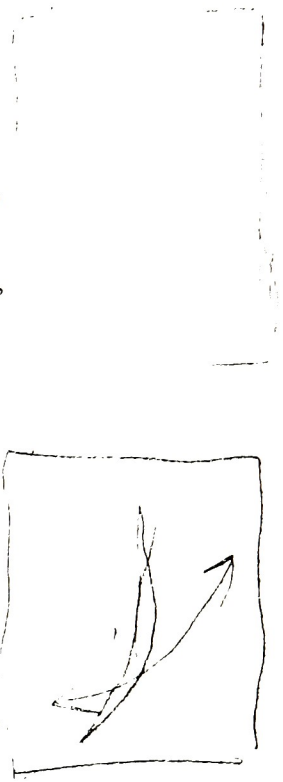
I composed in my imagination patterns with specific dynamics and textures which outlined my thoughts about the text. The most I could expect of the eventual composed imagery would be an approximation of the patterns in my imagination. However, these imagined patterns made the visual imaging of the text possible. I was able to sketch the patterns, though somewhat crudely, and use these sketches as guides to structuring the compositions. The crudeness of the sketches instigated continuous revision in search of better approximations. Thus, I was more inclined to manipulate the compositions into different and possibly more successful configurations than I might have had I been immediately able to sketch the patterns in close detail.

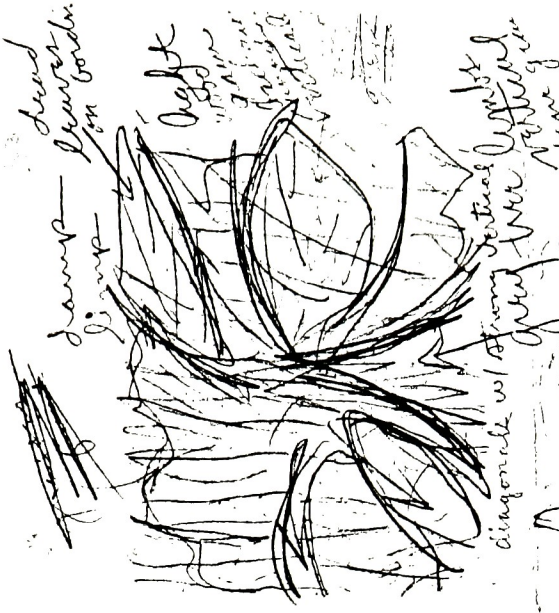
This rather more spontaneous way of working not only formed the way I was to structure the compositions but also inspired my choice of imagery and in turn, the style with which I constructed those compositions. The photographic image is more likely to be misaligned as being a true representation of reality than any other recording



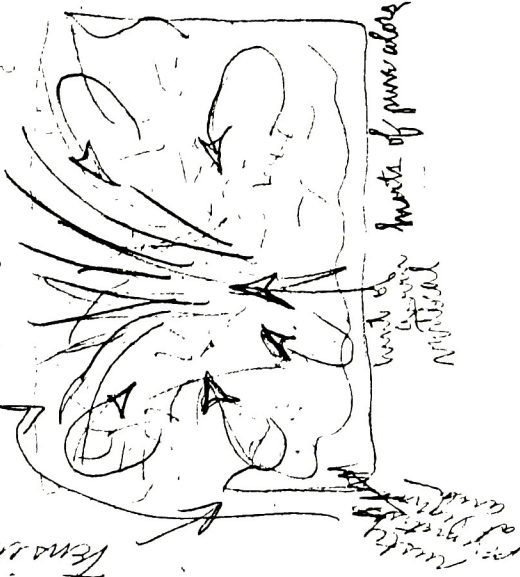
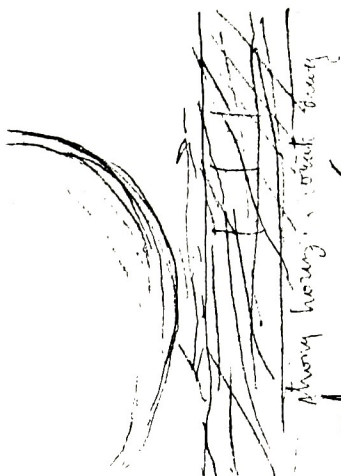
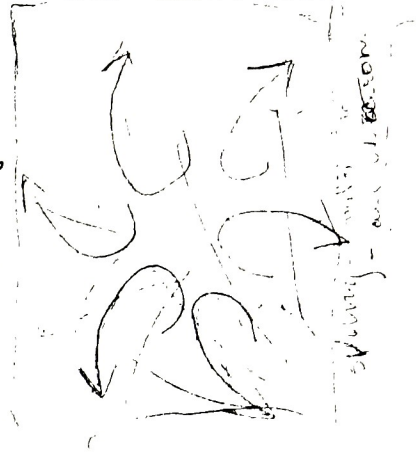
builds

breaks





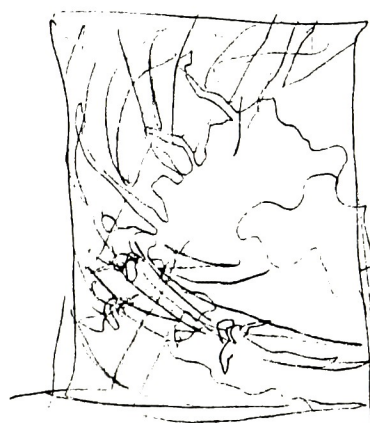
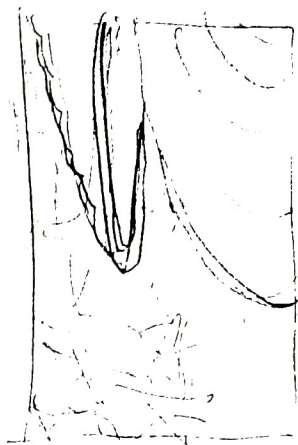
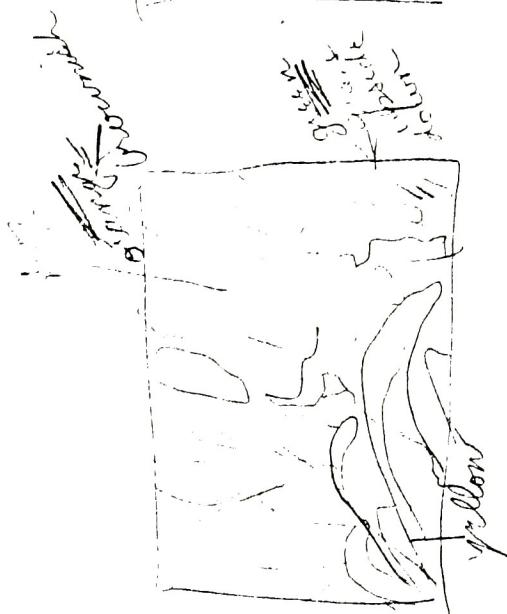
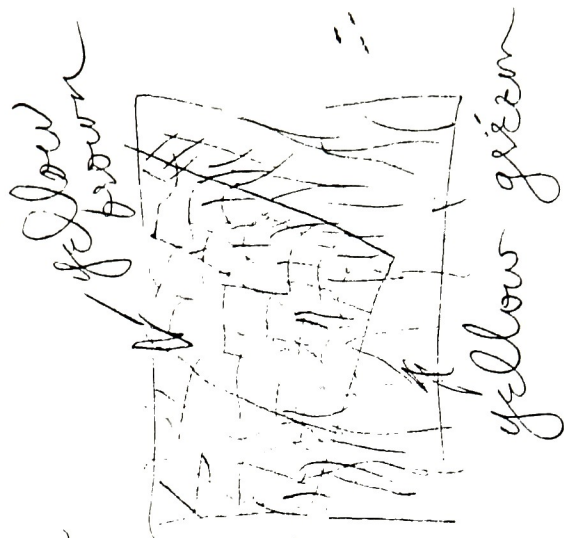
grassy / gutter



limb

limb

limb



media such as painting or drawing. Since the nature of the text is metaphorical, the imagery had to somehow symbolize this quality. However, the imagery was to be photographic--recognizable as something concrete in shape as well as color, though a bit grainy in texture. Therefore, in an attempt to create visual symbols, I photographed objects primarily for their color and/or textural qualities. Sometimes entire objects were photographed but most often, I took extreme close-up shots of objects with surface textures and color patterns that would become more interesting when rendered in a grainy color separation. This preoccupation with detail destroyed the recognizable quality of the image, making it instead a field of noncommitted pattern that is vaguely photographic.

The patterns formed by the photographic images of both whole objects and details of objects were used as components of the compositions, similar to the way certain styles of brushstroke and types of paint are used in painting. From a given palette of photographed images, I selected those which would form compositions closely approximating the feeling and dynamics of my sketches. In forming the compositions, the images were cropped, overlapped and at times color corrected, further inhibiting their recognizability as objects of a particular sort or their significance of being a particular object at all. Thus, just as the compositions were structured on freely associated sketches drawn from patterns in my imagination, so were they constructed from a more or less random selection of photographic images.

The spontaneity with which I was obliged to work probably charged the resulting imagery with more excitement than if I had been able to plan for or even clearly foresee the end result. However, I would have preferred more control over the processes I used to produce the project--at least to have had the opportunity to revise as needed. Due to financial and technical constraints, proofing all the compositions before printing or changing them in any way after they were printed was not possible. Except for what I could imagine, I did not actually "see" the compositions until after they were printed.

A DISCOURSE ON THE RELATIONSHIPS BETWEEN
THE TEXTUAL AND FORMAL QUALITIES OF THE PROJECT

Though I did not have as much control over the processes used to visualize the text as I would have preferred, the finished compositions adequately maintain the integrity of the text in terms of its subject matter, qualities of expression and its basic structure for maintaining continuity.

Color is the primary vehicle addressing the subject matter of the text--the seasons and seasonal change. Cool hues predominate in those compositions which identify with winter and warm hues with those describing the other, warmer seasons. When scanned in proper horizontal arrangement, one can detect a shift in the color scheme from the blues and greys of the outermost compositions to the reds, yellows and browns of the middle compositions. One can also detect a change in the image density of the image area, from the openness of the compositions at either end to the dense concentration of imagery in the middle compositions. Combinations of cool and warm hues in a single composition allude to seasonal change, especially when a color appears in two adjacent compositions but has a different order of importance in each, as red, yellow and blue do in prints three, four and five. In print four, blue predominates. However, one can detect a faint patch of red in the upper left corner, the same color of a lesser intensity as the red in print three. The red in print four is lighter and occupies less space, making it appear to be in the process of becoming a memory. At the opposite corner of the print are hard-edged, small areas of intense textureless colors. These colors signify that point in the text where the earliest signs of spring occur. Their obviousness and apparent incompatibility with the rest of composition four are expressive of the moment the first signs of brilliant color emerge after having undergone such a long period of time without it. However, the intent of these colors is perhaps not made clear until print five when one

sees an abundance of many bright colors, especially yellow. Its abundance in print five makes yellow far more important in that print than does the tiny but brilliant speck of it in print four. In this respect, the change from small to large area of the same color alludes to a change in the content for which the color speaks.

In terms of subject matter, the imagery was intended to be nonrepresentational. However, certain images violate this convention in those instances where textual clarity would be enhanced, such as the yellow marigold and the pressed violets in print five. I felt it necessary to insert a few representational images because I did not feel color alone would communicate the intensity of the text's subject matter in all cases. However, the entire image assemblage is never representational. Recognizable images are juxtaposed in such a fashion that even though they should to a certain extent be directly associated with an object from reality, the context in which they are placed denies that reality. Therefore, the image loses some of its representational qualities by being contained within a created or imagined setting.

The imagined setting becomes the most important vehicle for expressing the text's metaphorical qualities. Photographic images, distorted in terms of color, cropping and/or scale, and juxtaposed to other photographic images of similar treatment, create compositions with a surreal yet somewhat familiar feeling about them. One seems to want to believe that one understands them and at the same time cannot rationalize as to what that understanding is. The photographic realism and the formalistic compositioning seem to be in a tug-of-war. This is especially obvious in prints one, two, three, six and nine, where each composition seems to be representing some sort of landscape. In general, the landscape is extremely accessible to the imagination in countless forms. Yet, using photographically realistic images such as the shell, which are not readily associated with "landscape" and placing them in positions of high compositional importance, is a bit confounding--unless one is reading the compositions metaphorically. That one knows there is a shell "up in the sky" in the first composition is not as important as the realization that the image looks heavy, weighty, yet dimensionally stable and calm. The image at the bottom of

that composition may appear to be receding into the horizon. However, that it is *horizontal*, enhances the quality of solidity that characterizes the entire composition: there is very little happening in the dead of winter when everything is frozen. Thus, the surrealistic quality of the compositions is primarily a by-product of the kind of visual treatment I felt would best express the metaphorical qualities of the text.

The compositions maintain the text's continuity in two ways. Consistency is the most obvious. Page size, image area size, placement of the image area on the page, and image treatment in terms of the technical processes used to generate the compositions, are the same. One can detect with just a superficial scanning that all nine compositions "go together," if only as a set of different prints.

The text's continuity is more subtly maintained by the formal arrangement of the compositions themselves and their relationship to adjacent compositions. As was previously described, the text is essentially sequential. Each moment, though distinct in terms of content builds from the previous moment in terms of the inherent order of the theme. The seasons implies all of them, together, at once, just as seasonal change implies a continuous whole of events which occur in succession.

The whole is serial. The excerpted parts of the whole are not, as they cannot depend on the order of succession to maintain continuity. That one part follows another may appear successive but because they are excerpts, their successiveness can conceivably be misinterpreted as being a group of unrelated parts, thereby destroying the continuity of the whole. The parts are not entirely separate from one another nor are they a link in a continuous chain of events. Thus, to maintain continuity, successiveness helps but of absolute necessity is that the relationship (which forms the bond between adjacent excerpted parts) be an element essential to the success of those parts as individual vehicles of expression. This relationship can be viewed as the way the separate parts are "built" into a whole, successively imposing layers onto what is already there. Thus, for the compositions to reflect the text's continuity, their order must be sequential as well.

The sequential ordering of the compositions is literally centered around the fifth composition. The first four build from one to the other

primarily through each composition's center. In effect, these compositions are opening themselves or "giving way" to composition five. Print one is the most stable and is therefore the least expressive of this quality. However, its area of greatest tension occurs well within the image area boundaries where the two images are most proximal. The second print expands on this idea by having basically four images arranged around a common center which is targeted by the diagonals formed in the composition of those images. Print three has positioned in its foreground what appears to be an enlargement of the leaf image from print two. Its similarity is due to its similar compositional arrangement and purpose as well as its appearance. Both images surround their respective compositional centers. The leaf image in three is magnified from that of print two, implying that one is examining the former image in a very different way. It is no longer an integrated part of the entire composition but rather appears as a partially opened curtain exposing an entirely different set of images. The composition represents that particular moment when the snow has melted and one begins to recognize familiar textures and objects in the landscape. Print four retains part of the texture of print three but in comparison, it is faded almost to the point of transparency. At this moment in the text, the awareness of seeing familiar objects is lessened because their image has been repeatedly reinforced in the memory. The image that emphasizes this transparency seems to pass through the compositional center of this print, separating that which has by now become all too familiar from that which is greatly anticipated and searched for--spring itself. This image is in fact representative of the moisture necessary for the emergence of spring. The bright colors at the lower right corner complete one of two diagonals which cross at the compositional center. Hard-edged and brilliant, they impose themselves onto the central image in a rather bold, self-assured fashion that is compositionally subordinate only because of their relative size and order of placement within the image area. This composition is not about spring but instead describes those conditions which develop in anticipation of its full-blown emergence. However, one must recognize the tension created by spring's earliest appearance in print four to perceive the expression of explosive relief when it officially arrives in print five.

After print five, each of the remaining four prints seem to be in a particular stage of decomposition, depending on their relative position to the middle print. The first four compositions build into one another from the compositional center. However, the decomposition of the last four prints tends to manifest itself through the use of the image area boundaries. The foreground imagery in print six are bled off the top and bottom boundaries, giving the composition the feeling that the elements are dropping in and dropping out of the picture. The yellow marigold is the same scale as the one in print five but there is much less of it showing; one can expect that it and the orange blossom firmly positioned nearby will not appear in subsequent compositions. The grassy ground encompassing most all of the image field in print six appears in print seven to be falling away from the coarsely woven image at the top of the composition. This print is representative of the last remaining moments of tropical damp summer heat. The fragmented composition of print eight is perhaps more expressive of seasonal decay than is the use of the image area boundaries. The fall signals the earliest preparation for winter, and though the preparations are orderly, submitting to the inevitable is nevertheless accomplished with a bit of hesitation. Thus, the last bit of colorful energy bursts forth before the solemn "tucking-in" for winter occurs in print nine.

CONCLUSION

After viewing the ninth print, one is presumably left with the feeling that the content of what was just seen is continuous even though the imagery may not have been readily apparent as such. The compositions are not esoteric to the extent that they might seem just as effective if placed in a different or random order. Though the theme itself may not be readily comprehensible from viewing the imagery, one can perceive specific characteristics about the theme; each composition is distinct and yet is also related to adjacent compositions. The space between the prints both separates them from one another and forms a bond that gives the entire assemblage solidity. The images themselves are both made distinct and similar by their respective colors and compositional treatments. Without having to delve too deeply into content, one can sense with just a scan that the compositions are paced continuously over many disconnected surfaces. One is never jolted or surprised by the compositions; they present themselves in a very matter-of-fact almost passive way. Whether the suite actually is a book or not is a determination I shall leave to the viewer. The text may have meaning only for me but it was necessary for me to work with such an intense conceptual focus in order to satisfy my expectations of exploration and personal growth.

The project is not without flaws. It falls short of expressing many of the ideas so neatly elaborated upon in this report: the project's sequential organization alone represents a style of sequential ordering in a very early stage of development. However, the project is so strongly conceptual that to correct the parts I feel are unsuccessful now would be meaningless, especially since "correct" in this case is so tenuously relative. Even from its earliest beginnings, the project seemed like an experiment. I never knew from one moment to the

next what would result, though I was aware that the succession of results was giving the project its form. Its actual construction was as significant as the content of the project itself. To revise this past effort with new ideas would in essence create a new project.

APPENDIX

The color separations were made using a 35mm camera loaded with Recording Film (1000 ASA) and three filters: No. 25 Red (cyan printer), No. 58 Green (magenta printer), and No. 47B Blue (yellow printer). The camera was positioned on a very sturdy tripod. I photographed in daylight and metered with a hand-held light meter. Keeping both the camera and the subject as still as possible, I shot three shots, each with a different filter in front of the lense and changed the F-stop to accommodate for the filter factor of each filter (#25- open $1\frac{1}{2}$ stops, #47B- open 3 stops, and #58- open $3\frac{1}{3}$ stops).

The negatives were processed in DK-50 (full strength stock solution). Normal processing time at 68° is six minutes. However, since a flat negative is required for the next step, I underdeveloped them slightly at five minutes. The image was printed in an enlarger onto Kodak Ortho Film Type 3 emulsion up and without a screen. Recording Film has an extremely noticeable grain, especially when developed in DK-50. When enlarged, this grain transfers quite well onto high contrast films such as ortho which would otherwise need a synthetic "grain" or screen to reproduce a continuous tone image. Since ortho is so high contrast, printing from a flat negative will help hold the highlight and shadow detail in the printed image. I already knew what my image area was going to be so I was able to enlarge the image to an appropriate size at this stage. I used a glass 4x5 negative carrier in the enlarger which pressed the negative completely flat (Recording Film has a very thin base which curls permanently after processing). The negative was placed in the carrier emulsion up, projecting a reverse image onto the film. After exposing the ortho film, I then developed it in Fine-Line Developer at 68°. The film was agitated in the developer for fifteen seconds and then still developed for two minutes. The film was then fixed, washed, dried, and identified as to its corresponding printing color. The resulting positive was right-reading on the emulsion side. Each

image required three separate positives, all exposed through the enlarger at the exact same size and developed as consistently as possible. Exposure times for the ortho prints varied considerably. However, my best guide was to achieve an approximate five percent shadow and highlight density in the image.

After printing all the sets of color separated images onto ortho film, I began to construct my compositions. 9x12" sheets of acetate were punched with an animation punch for placement on a pin-registration bar (composed of a long, flat piece of steel with protruding rectangular pins at either end and a round pin in the center). The 7x9½" image area was centered on a punched 9x12" acetate sheet. Positioned on the pin registration bar which was taped to the top of a light table, this sheet was used as a base guide to keep the boundaries of all the acetate overlays consistent. A composition was formed by taking usually the cyan but sometimes the yellow printer of all the images I wanted to work with, cropping and trimming where necessary, and arranging them on a piece of acetate that had been positioned on the pins over the base sheet. When the positioning was satisfactory, the image positives were secured with scotch-tape. The acetate was marked as to its respective printing color and was then used as the "master" composition with which to register the other two remaining printers. Another piece of acetate was placed on the pins over the master, printing color was indicated and the corresponding images were registered to the master and taped securely. This process was repeated for the other eight compositions as well.

Because I was planning to use the photo-lithographic process, ortho negatives with the emulsion on the right-reading side were necessary. Since the taped image positives (wrong-reading on the emulsion side) were going to be contact-printed to produce the negatives and proper contact-printing technique requires emulsion-to-emulsion contact, the master compositions had to be composed in the reverse. One could only see the composition as it would be printed if it was examined through the acetate support sheet.

To make the final negatives, sheets of 8x10" ortho film were punched with the animation punch prior to exposure so that the 7x9½" image area on the base guide sheet fell within the film area when the two sheets were positioned on the pins. The registration bar was then positioned on

the rubber blanket of the contact printing frame and a sheet of ortho film was placed on the pins, emulsion-up. A taped-together positive was then positioned on the pins over the film. After the frame had been sealed, the exposure was made. The film was then developed in Kodalith A & B Developer with constant agitation for about two minutes.

Often, a composition could not be produced without separating the imagery onto different acetate sheets, especially when the edges of different imagery touched. This situation required an additional step of cutting pin-registered rubylith masks to block out light from parts of the image area that were to be exposed later with another image on a different acetate sheet. As many as three exposures in the contact-printing frame were needed to produce one master negative of a particular printing color. Thus, a total of nine exposures were necessary to produce the three printing negatives for such a composition.

Since the proofing system available to me required negatives (as opposed to positives), I was unable to see the color balance in my images until the negatives were made, as this was the first point ortho negatives entered into the production process. I used ENCO Co. transparent proofing material called NAPS (negative acting proofing system), very similar to 3M Color-Key but without the noxious chemistry of the 3M product. My supply of the three process colors was extremely limited. Thus, I was able to proof all the negatives but only a small patch of each. The patches however, not only indicated the color balance recorded in the negatives but also would serve as a guide to ink density during the printing process. Since I was not concentrating on accurate color reproduction, I saw no need to redo any of the negatives. If there was a severe color imbalance, I knew I could correct a good portion of it by altering the ink density on the printing plate.

After proofing, the negatives were stripped into goldenrod flats. The flats were cut slightly larger than the size of the printing plate and both goldenrod and plates were punched identically with a heavy stationers punch. A 7x9½" window was cut out of each sheet of goldenrod, leaving a three inch margin on the top, right and bottom sides. The left side had an approximate six inch margin, as this was the end where the pin registration holes were punched. Pins were taped to the light table surface to hold the goldenrod in place. The animator's pin bar was positioned

underneath the goldenrod so that when the 7x9½" guide was positioned on the pins, its area corresponded to that of the goldenrod window. A negative was then placed on these pins under the goldenrod wrong-reading, emulsion-down, and taped in place. After all nine compositions were prepared, a total of twenty-seven flats were ready for exposing the litho plates.

The plates were coated with a light sensitive liquid and dried. Each plate was then placed in a contact-printing frame and covered by a goldenrod flat. Steel pins held the flat in consistent position on every plate. The plates were exposed to UV light and developed. An etchant solution was then applied and the plate was buffed dry, ready for printing.

The paper used for printing the project was Rives heavyweight. It was cut to the size of the plate and punched to register, as pins would be necessary during printing to help maintain the tight registration needed to insure legibility of the imagery. Yellow was printed first, then magenta and cyan last. Since I was printing an edition, I tried to keep the ink density consistent from print to print. I did attempt to change the color balance in a few instances by under or over-inking. However, I learned that over-inking a litho plate in hot weather can be disastrous. Ink scumming was the primary cause of print casualties. Misregistration was next and though it was never severe, even a slight misalignment caused the images to look very blurred.

After the images were printed, the pin registration holes were cut off making the three-inch border consistent on all four sides of the paper. The prints were then sorted into waste copies, suites of nine and run-overs. Each suite is stored in a plain black folded paper envelope.

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