Original plates to demonstrate the application of design criteria to selected alphabets

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Original plates to demonstrate the application of design criteria to selected alphabets

by

Barbara Jane Bruene

A Thesis Submitted to the Graduate Faculty in Partial Fulfillment of The Requirements for the Degree of

MASTER OF ARTS

Department: Applied Art
Major: Applied Art (Advertising Design)

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INTRODUCTION

Roman letters have served much of the western world for more than two thousand years. Their distinctiveness is derived from their design qualities. Line, the main constituent of these marks, as well as other marks which came before them, has long served civilization as writing. Line in the shape of pictographs, ideograms, hieroglyphics, and, finally, letters allowed communication to exist in time and space. When words were only spoken, never written, they existed only so long as the sound of the voice could be remembered. Words lived only within the distance the human ear could absorb. Slowly man began to give them longer life. He developed visible marks that people could look at and know their significance, whether or not the speaker was present. To be useful tools of communication, they had to be memorized and potential combinations understood. These signs made possible the storing of thoughts beyond the moment and transmission beyond the sound of one human voice. Each sign required a unique shape and each had to be written clearly.

I. J. Gelb has stated, "Although the chief aim of writing is not artistic effect but the practical recording and transmission of communication, writing at all times has had elements of aesthetic value" (9, p. 229). The first forms of writing were pictures. In several languages there was originally a close connection between words used to describe painting, drawing, writing and incising (9, p. 7). Edward M. Catich maintains, "Writing is the first art" (2, p. 9).

There are artists who view the letters as objects. Eric Gill said, "Letters are things, not pictures of things" (10, p. 120). Line and space
are converted into shapes that are letter forms and words that can be patterns.

In the contemporary view, calligraphy is writing that can be appreciated for its design qualities. It is hand written or drawn. The artist and his audience concentrate on movement, patterns, shapes, emphasis, balance, line, rhythm, and space. It deals in some way with language. At its most utilitarian, the emphasis is placed on legibility. At its most abstract, it is difficult to read. If literary content is not important, the artist may work almost entirely with the presentation of forms. He views the shapes in a new, fresh way and uses them without the constraint of legibility. Some artists look at writing, contemporary and ancient, and make up their own series of signs to march across the canvas. Artists such as Mark Tobey, Bradley Walker Tomlin, and Ulfert Wilke have worked with images which in some way resemble writing. Although the imagery is unreadable, it derives from signs used in writing.

Looking at letters as totally abstract shapes or lines or patterns is the very opposite of seeing them only as vehicles of communication. Between these viewpoints is calligraphy. It is writing with interest in the visual effect. David Diringer writes, "The study of the development of writing as dependent on aesthetic reasons is the subject of calligraphy" (8, p. 441).

Within calligraphy there is a range of emphasis on aesthetic considerations. Some medieval Arabic hands, for example, were designed almost entirely to please the eye. Some contemporary artists also take letters and prod and pull them into shapes which are difficult to identify. There
is still some degree of communication of ideas involved, but the visual effect becomes paramount.

Some calligraphy is utilitarian only. Until the advent of the printing press and movable type, books were handwritten. The main purpose of book hands was to convey a writer's ideas. The carefulness and regularity that was developed in the hand served that purpose. To some degree, however, visual effect was considered and some beautiful books were written. The Irish Book of Kells demonstrates a rhythmic pattern of uncial letters varied by stretching certain letter forms into surprising shapes and filling counters with color. Pages were designed to delight the eye. Large initial letter shapes were filled with animals and birds and people. Brightly colored creatures were mixed freely with the script.

The elegant majuscules used in Roman inscriptions in the first century A.D. set a standard for legibility. Roman sign painters skillfully drew beautiful letters on stone with a brush. The stone-cutter's chisel preserved them. Catich considers those on the Trajan inscription in Rome to be the measure of both legibility and beauty for today's calligraphers whether they are writing by hand or designing a typeface. His succinct definition of calligraphy echos the perfection of those letters. "Calligraphy is the art of making letters of fine quality" (6, p. 15).

Calligraphy presents words and forms. It is an expression of thought and design. The calligrapher presents an author's words much as a dancer presents a choreographer's script or a musician, the composer's score. He expresses the author's meaning as he understands it and seeks to enhance the words.
The purpose of this thesis is to explore the application of design criteria to calligraphy. The plates were developed to be used as classroom aids for university students. An understanding of the application of design criteria may increase appreciation for calligraphy and enable students to communicate more effectively both visually and verbally.

This thesis deals only with readable, Roman letters selected from major book hands. The original plates employ contemporary adaptations of them. Included are Roman majuscules, uncial, Caroline minuscules, black letter, humanistic minuscules, and humanistic cursive. The plates are described in chapter five in terms of design criteria.
CHARACTERISTICS OF CALLIGRAPHY

Line

The quality of line in calligraphy is affected by materials. The tool, the ink, and the surface affect the texture of the line. A rough paper can cause islands within the line which are not covered with ink. Lines chiseled in slate consist of minute striations formed by the tool.

More important than these material considerations, however, is the movement of the artist's hand at the moment the tool touches a surface. Hand drawn letters are visible traces of movement. They may be compared to animal tracks left in fresh snow or soft, creek mud. They testify that a hand moved a tool in a particular path to form them.

The movement of the hand of the artist can be seen in the quality of the line. Tenseness, hesitation, confidence, speed, and firmness of touch are translated into it. The line may vary for other reasons. There may be regular recurrences of thick and thin caused by a chisel-edged tool held constantly at one angle to the horizontal writing line, or the width of the line may vary according to changes in cant. Brush written letters have a great many cant changes throughout a curved stroke. The brush moves freely between the fingers as the hand guides its path.

There is a follow-through in calligraphy much like that of a golfer or a tennis player carrying his swing beyond contact with the ball. Donald Jackson reported that he first became aware of this when he watched a film showing close-up views of himself writing with a quill pen. A person signing his own name may notice the follow-through of his hand after the pen has left the paper.
The speed of movement varies according to personal skill and temperament. But it also varies according to the style of letter. In humanistic cursive, the hairline strokes are made quickly while thick strokes slow the pen. Even within one stroke there may be changes in pace. The formation of a Roman majuscule O demonstrates changes in speed. The left curve, drawn first, is limited only by its shape and two guide lines. The right curve has the same limitations plus the necessity of smoothly joining the ends of the left curve. It is drawn more slowly than the left side. The slowest movement in the construction of this O occurs at the end of the right curve stroke as it swings to meet the bottom of the left curve.

**Legibility**

Catich defines legibility as "optimum recognition" (5). A legible letter is constructed in the clearest possible way to make it quickly recognizable as a unique form unlike any other letter. Letters are legible if they are constructed in the manner that is most suited to accommodating the reading eye (4). With as little effort as possible, the eye recognizes the letter.

In legible letters counters are large enough so that their shape can be clearly seen. For example, the lobe of a humanistic minuscule e should be sufficiently large to clearly form that letter rather than appearing to be a thick arm for the minuscule c. In letters which have two counters, there is an equilibrium established between the counters. In Roman majuscule letters such as B, H and X, for example, the upper part is made smaller than the lower part so that they will appear to be equal. If they are made mechanically equal, the upper part will appear to be larger than
the bottom. This gives a top-heavy, unbalanced appearance to a letter (6, p. 102).

Legibility is increased when there is a balance in the relationships between thick and thin strokes. Strokes which are very thin tend to fade into the background leaving only the thick strokes to carry the burden of letter identification. Late in the development of Celtic letters a 0° cant was used which caused such thin horizontals that the stroke endings were often embellished to attract attention to them. Black letter became a particularly illegible hand in the 14th century. The minuscule letters in some writing appeared to be rows of verticals connected by very thin horizontals.

The 30° cant selected by the Romans has continued, through the centuries, to facilitate the formation of legible letters. Just a slight turn of the pen to a 45° cant causes vertical and horizontal strokes to be mechanically equal in width. The eye, especially if the strokes are the same length, sees the horizontal stroke as longer and thicker than the vertical one. That is, if they are written mechanically equal, they are optically unequal. "Even well designed sans-serif letters will have their horizontals ever so slightly thinner than their vertical parts so that all parts will appear equal optically" (6, p. 103). The two-to-one proportion of the Roman majuscules, obtained by maintaining a 30° cant, causes verticals to be twice as thick as horizontals. This proportion emphasizes verticals, while at the same time, horizontals are wide enough to be clearly visible.
CRITERIA

In this thesis I am proposing two standards for use in judging calligraphy--composition and expressiveness. These criteria have not been fully discussed in calligraphy literature. Many authors deal with the structure of letter forms and their history. They give advice on spacing letters and words and information about designing pages for books. Heather Child raised the issue of criteria as she wrote:

Calligraphy has won a significant if modest place in the graphic arts in Britain. But the future development of the craft depends on the sound teaching of its principles and practice. Writing is a complex subject and there are many questions that remain unanswered. How does one discriminate between good and bad letter forms? By what criteria should calligraphy be judged? And most important of all, how are new craftsmen to be trained in the required techniques? (7, p. 12).

I am not aware of published material about western calligraphy written in English or translated into English, which concentrates extensively on composition and expressiveness. Calligraphy may be analyzed according to both of these criteria. Expressiveness refers to liveliness in the writing; composition, to the organization of the components.

Composition

Evaluation of composition includes the individual letter forms; the spacing between letters, words, and lines; and the design of the entire space which supports the calligraphy.

The positive component is line and the negative component is space. In addition to the positive and negative relationship, there is color. These components are ordered in a composition to achieve coherence of the parts. Ideally, none could be moved, subtracted, nor additional ones
appended, without damaging the unity of the design. Within the integrated whole, the many parts are related and contrasted through techniques of organization. These include rhythmic movement, a sense of balance, and the emphasis of one element or area.

The technique of rhythm is linked to dance and music. Rhythm in art is less commonly understood, yet rhythm in design shares some of the same significance it has in music and dance. Rhythm may be repetition of components. In music the components are notes. In dance rhythm is movement. In art rhythm may appear in the uses of line, color, form, space, texture, or light. Repetition of these components occurs at varying intervals. There are variations in speed. In dance and design, size can be manipulated. The variations are important. Mere repetition of a component sound does not make music. Marching is not dance. A railroad track usually is not art.

Repetition of elements in design leads the viewer's eye with varying rapidity from one form to another form or from one area to another. This perceptual phenomenon is inherent in calligraphy. Consistently accurate formation of strokes and counter shapes facilitates movement along a line of letters or through an area of letters.

There are a limited number of stroke shapes in a well-designed alphabet. Ben Shahn recalled noticing this when he was a small boy learning the Hebrew alphabet. "It was such pleasure to copy them from the prayer-book, because in each letter there was some subtle part of the others, and as one learned to make new ones he discovered those familiar parts that he already knew" (13, p. 5). Five letters, D, Q, R, S and V, contain all the strokes necessary to form the classical Roman majuscules.
Similar counter shapes also recur throughout a good alphabet. Part of the lemon-shaped counter of a Roman majuscule 0 appears again in the G, C and Q. Smaller in size, it appears again in the S and the curve of a J. The a of the humanistic cursive hand has a narrow, wedge-shaped counter which is repeated, sometimes in inverted form, in many other letters.

A continuous line with repetitious undulations can have rhythm. Letters written with a broad-nibbed pen held at a constant angle to the writing line will appear to be formed from a continuous line with recurring thick and thin strokes. There may be either a gradual progression or a sudden jump from thin to thick and thick to thin. Heavy letters have sudden changes. The shape of their line is angular and sharp. A comparison could be made to rugged mountain peaks. In light letters, the transition from thick to thin is more gradual. The pen has less effect on the resultant line. It is more like drawing. The undulating line is slowly curved. It is analogous to old, flatter mountain ranges or their rolling foothills.

Repetition of swashes can facilitate eye movement through a design. These extensions are not integral parts of an alphabet. Each addition of a swash requires a separate design decision.

The spaces between letters and words move the eye also. These spaces are equivalent in area but not in shape. Immediately there is variety in this component of calligraphy because of the shape differences. Yet the eye keeps moving unless there are white gaps where letters or words are too far apart or black spots where they are massed too closely. If the goal is to write unbroken bands of pattern, the letters and words need to be close together. If the interspaces are equivalent in area throughout the text, the overall effect, or color, is an even grayness. This is described as
good color because it facilitates speed in reading. The composition may, however, employ areas of white or black for variety, emphasis, or to create rhythmic intervals.

Another design consideration is balance. Balance in art is the same as in life. It involves equilibrium. There is an adjustment in the relationship of two or more forms to create a sense of stability in the design. A symmetrical arrangement of identical or similar forms on both sides of an axis or around a center point is a very old technique. Factors involved in asymmetrical arrangements in which balance is achieved can be complex. Dissimilar forms are positioned in a relationship to each other that will equalize visual weights and provide a sense of stability in a composition.

In painting, an effort is made to balance areas of varying colors. This may be true in calligraphy, but more often calligraphy is achromatic. The hand, nib-width, ratio of nib-width to letter height, width of letters, and amount of space between letters, words, and lines are factors which change the value of an area.

Achieving a balance between areas of movement and areas of rest is important in calligraphy. An alphabet, by its very nature, contains movement; that is, the inherent rhythm is always present. The speed of movement varies greatly from alphabet to alphabet, but movement is present in each. The spaces that occur between words form natural rest areas.

The amount of space between words is determined by the style of alphabet, priority of legibility, and design considerations. Compressed letters require only narrow spaces between words, except when letters are both heavy and compressed. Extended letters need extra space to balance the space trapped within the words, unless the letters are both light and
extended. The width of the counter of the letter o in the alphabet being written is a good guide for measuring the amount of space between words. This rule of thumb is important when the primary consideration is legibility. Generally, in a large area of words, legibility is very important. In an area where only a few words are used, they may be spaced tightly or openly without much loss of legibility. Open spacing may increase the sense of formality by slowing the viewer's eye. Close spacing increases reading speed.

Space between lines may also be either tight or open. Tight spacing between lines, combined with open spacing between words, decreases legibility. Length of lines affects the amount of interlinear space required. Short lines can be tightly spaced. Long lines need more space between them. This allows the eye to easily retrace its path and begin reading the following line.

Exceptions to these guides come quickly to mind whenever visual interest supersedes legibility as the most important consideration. A humanistic cursive hand with elongated ascenders and descenders may use wide interlinear spacing to develop a contrast in patterns. Closely packed minuscule bodies form dark strips between wide bands of white which are broken occasionally by ascenders and descenders. Caroline minuscules, as they were first written, had elongated ascenders and descenders. They were twice the x-height which might be only three pen-widths. As much as eight pen widths were allowed between guide-line sets.

The spaces between letters are also subject to balancing. Traditionally, letters with straight strokes side by side should have the greatest distance between them, while round letters should have the least. Between
all the other combinations of stroke shapes there should be a medium dis-
tance (12, p. 78). Light or open letter forms need to be spaced closely
because of weak attraction between the units. Heavy, or heavy and com-
pressed letters can maintain tension between forms when more widely sepa-
rated, but as a result, reading speed may be reduced.

The relationship between interspace and counter is important. The
interspace generally cannot be greater than the counter. It may aid the
reading eye more if it is less than the counter. Good spatial tension is
difficult to define. It puts forms in an active relationship to one
another. Too much negative space allows letters or areas of letters to
separate. If forms float apart, there is little interaction. Yet if they
are so close that the interspace is negligible, their relationship is
static. There should be enough negative space to maintain tension between
all the areas without crowding.

A balance between positive and negative space should be maintained
throughout the entire art work as well as between letters, words, and
lines. Too little negative space concentrates the eye on details. If
there is a successful balance of positive and negative space, the viewer
sees the total piece.

Another useful method of composition in calligraphy is to emphasize
one form or area. Some part of the design becomes more important or more
quickly noticeable than other elements. It adds variety to the composi-
tion.
Expressiveness

Expressiveness as used in this thesis refers to liveliness. Lively writing suggests energy and motion. Confidence based on mastery of letter forms, materials, and space frees the artist to concentrate on the shapes he is creating and their relationships. As a letter is drawn, he makes subtle adjustments to fit it into the surrounding area. As he opens a new letter, he thinks of the forms already created above and beside it. As he closes it, he considers the letter which will follow and the letter which may be drawn below. Letter arms, which may be extended at the end of a word or line, need to be normal or abbreviated within a word to keep the forms distinct and legible. Descenders are sometimes greatly elongated and flourished in the final line of writing, but within a body of writing, they may be slightly shortened.

The presence of liveliness in calligraphy is evidence that its maker was lifted, at least for a moment, beyond skill, technique, and materials to produce a work that is unique. This special quality which the viewer senses in the art work is, in this thesis, called expressiveness. It can be the path which opens communication between the artist and his audience. The viewer may sense the movement of the hand as it created the letters. Catich's controlled Roman majuscules, expertly chiseled in slate, are alive with the movement of the twirling brush that created them. Johnston's humanistic minuscules are full-blown, juicy letters. Rudolf Koch's gestural, black letter writing can tear into a viewer's consciousness.

Earlier discussion in this chapter dealt with composition and letter forms. Command of these factors is enhanced by responsive materials. Jackson speaks of their vitality. He uses a quill pen because he finds
that tool to be the least obtrusive between his hand and the surface he is using for his writing. Jackson says, "Tools will free you, if you become master of them. The quality of materials is involved in the quality of experience in the making. If you are sensitive to materials, they'll pay you back by being more responsive" (11). He cuts his own quills to create good pens, prepares vellum with infinite care to produce a good support, and mixes stick ink because of its excellent characteristics.

Mastery of materials, letter forms, and composition can create an environment conducive to expressiveness. The artist has the opportunity to write with assurance and verve. He has the freedom that may enable him to create lively writing.
A history of selected alphabets

A phonetic system of writing has been traced back to the Sumerians (1, p. 15). Eventually a North Semitic script became a model for the Greeks who added vowels, established a pattern of writing from left to right, and adopted a standardized system of symbols in 403 B.C. In the second century B.C., the Romans invented shaded writing, that is, thick and thin letter parts (6, p. 147). By the first century A.D., they had developed the letter forms preserved on inscriptions. The inscription letters were the models for the capital letters which were combined with humanistic minuscules in the fifteenth century in Italy. This combination of letter forms was copied in early Italian type styles and remains in use today.

All of the alphabets used on the plates in this thesis are contemporary adaptations of Roman book hands. The Roman majuscules are derived from the Roman inscription letters incised on the Column of Trajan in A.D. 112-113. Catich has painted and incised these letters in his own work, and he has written and lectured extensively about their origins. Studying in Rome in the late 1930s, he analyzed the Trajan inscription. His background as a sign painter some years earlier in Chicago alerted him to the brush origin of the letters. He discovered that every nuance of the Imperial Roman letters had been created by the Roman sign painter's brush. The edge-in, edge-out strokes form the fillets and serifs. Constant changes in cant determine the shapes of junctures and swells. In 1961 Catich published his studies, along with plates containing 164 of the original 172 letters in the inscription, drawn in their actual size (3).
Following in chronological order after the Roman majuscules is the uncial hand. It existed as a book hand from the fourth century to the ninth. It is distinguished by large counters and the beginning of ascenders and descenders. Uncial and Irish majuscule were generally written between two guide lines with the half-uncial requiring four guide lines. The uncial hand used in some of the plates is a contemporary adaptation of features from uncial, half-uncial, and Irish majuscule. It is written at a 30° cant similar to early uncial hands, but it has some forms more closely connected to half-uncial, such as m, h and f. The bent feet come from half-uncial. The head serifs resemble those in the Irish masterpiece, the Book of Kells.

Caroline minuscule, the inspiration for the current humanistic minuscule typefaces, evolved in the last part of the eighth century from half-uncial and the more informal, cursive scripts. Charlemagne and the Anglo-Saxon scribe whom he hired, Alcuin, are given credit for promoting this legible hand. Caroline minuscule became the European book hand during the ninth, tenth, and eleventh centuries.

Black letter, a compressed hand, developed in the eleventh century from the rounded Caroline minuscules. Narrow counters, combined with short ascenders and descendents, made it possible to put lines and letters close together creating a black page. Many early typefaces were based on this hand. It was used in the twentieth century, in Germany, until Hitler declared his opposition to it.

Koch was the twentieth century master of black letter. He taught a natural, simple form based on two strokes, a vertical stroke and a diamond shaped stroke, both drawn at a 45° cant. The diamond shaped stroke is
slightly flattened and elongated in many of the letters. The letters are approximately equal in width as are the interspaces. The repetition of verticals is analogous to a picket fence. Because the letters are so similar, the writing is difficult to read. This hand is primarily a minuscule hand. A variety of capitals have been used with it. Koch recommended a simple, Roman majuscule. Occasionally he substituted an uncial form such as in the case of the letter E. Many designers have constructed a majuscule alphabet to accompany the minuscules. One of these artists was Albrecht Durer. He, like others in the sixteenth century, applied geometry to calligraphic forms.

Although a rounder, more legible form of black letter was widely used in Spain and Italy, some of the Italian humanists were dissatisfied with it. In their search for ancient manuscripts, they discovered samples of Caroline minuscules. Some of the Florentines, in particular, liked the round, open forms and encouraged scribes to write new manuscripts based on it. Not long after this script became established, printing began in Italy and it was copied for the design of typefaces. Variations of those early, Italian typefaces continue in use today. For this reason, the hand is extremely familiar.

In the early 1900s, Johnston developed a version of this hand which has become a standard for contemporary calligraphers working with this alphabet.

Parallel to the development of humanistic minuscules was a less formal hand, humanistic cursive. It too was copied for a typeface. Today it is in evidence as italic typefaces, personal handwriting, and in calligraphy. Many contemporary calligraphers use humanistic cursive extensively. It can
be written relatively fast, it lends itself easily to embellishment, and it combines well with other hands.
DESCRIPTION OF ORIGINAL PLATES

Twenty-three plates accompany this thesis. The work was done on paper with reeds, quills, and dip pens. The paper used included Strathmore board, parchment paper, and Crescent drawing paper. The ink was Pelikan Fount or Pelikan Drawing. The paint for gouache color rendering was Winsor & Newton.

The studies and designs were executed to demonstrate one or more techniques of composition. Demonstrations affecting value include changing interlinear space; maintaining x-height, but changing nib-width; changing Z-height, but maintaining the same nib-width and letter-width; maintaining Z-height, but changing letter-width; changing hand; changing nib-width and establishing normal x-height; and changing the weight of letters.

Rhythm was illustrated by color gradation, a continuous line as used in swashes or ascenders and descenders, serifs, and the inherent rhythm in the alphabets selected.

An area of a design was emphasized by placing the important element in a strategic position, usually near the center; changing letter weight; adding color; adding gradation of color; changing nib-width; changing the hand; massing words to create larger units; or increasing space around the area to be emphasized.

The plates demonstrate both symmetrical and asymmetrical balance. Balance was sought by equalizing areas of movement and rest; by working with the weight of light values as compared to dark values; by equalizing the weight of areas of writing by moving the smaller one a greater distance from the center; and by using warm color for greater visual weight.
Bands of pattern vary from piece to piece and are influenced by choice of hand and spacing.

To the extent that a plate demonstrates control of tools and letter-forms and has life, it may have a degree of expressiveness.

1. **Believe in Spring**

Value changes were developed through the contrast of heavy and light letters. A change in letter size and the addition of color emphasizes one area of the design. Repetition of words, with a variation in size and color, establishes rhythm.

2. **Autumn**

Two hands are utilized in this design to increase the contrast in the value of the two areas of words. A light, grayed brown gouache contrasted with black ink increases the difference in value.

3. **American Farmer**

Contrast in value is employed to emphasize one area of this design. The contrast is the result of changing the nib-width and the hand.

4. **Moment of Contact**

This piece is a study of the changes in value that occur by maintaining the same x-height while writing with tools which vary in size.

5. **Price of a Manuscript**

The Z-height is maintained throughout, but the width of the letters is varied. Normal, extended, and compressed letters demonstrate a change in value and in the pattern created by each change in width.
6. Geese

This design demonstrates the usefulness of varying interlinear space to change the value of an area. There is also variety in the patterns within the interlinear bands.

7. Beyond Usual

The addition of flat serifs to a humanistic minuscule alphabet increases the rhythm in the hand. The change in nib-width and the interlinear spacing affects pattern, value, and rhythm.

8. Mind of the Artist

This study was planned to demonstrate the difference in value in three hands. It also demonstrates differing patterns and rhythms of three hands written with the same tool at normal weight.

9. Calligraphy Ribbon

In this study, which repeats one word many times, the letter widths are maintained throughout, but the Z-height is changed at intervals. The result is a change in value and pattern.

10. Labor of the Writer

This study demonstrates the effect on value of changing alphabets and also the difference in patterns created by two hands.

11. Acorn

A very fine nib is combined with a wider one to create a contrast in value and texture in this design.

12. One Acorn

This design utilizes value and texture differences plus a gradation of color for emphasis.
13. **Dance on Paper**

This design demonstrates value changes both by use of color and by varying the width of the tools. These techniques were used for emphasis.

14. **Lying in Bed**

The pattern of the undulating line has a gentle rhythm that leads the eye to the other two lines of words, which gradually get larger and lighter in weight as the color changes from brown, yellow, and orange to red. The largest letters are near the center of the design which balances the smallest letters which are nearer the top edge. The curved line of flourishes lends further rhythm to the design.

15. **Sport**

Rhythm is used to move the eye through this design by both color gradation and repetition of curved lines. The extended letter parts overlap and prolong visual involvement. There is a strong sense of the movement that created this design.

16. **Honor**

One line of writing forms a pattern of round letter forms. At unequal intervals, the letter forms are punctuated by a tall ascender. Repetition of the ascenders moves the eye along the line of pattern. The base line, in the body of the quotation, is broken only once for a descender. A light touch on the corner of the quill subordinates that stroke to the main pattern. A heavy descender on the first letter of the author's name emphasizes the separateness of that element of the design.

17. **Harmonious Alphabet**

The border illustrates the repetition of stroke shapes and surrounds five lines of writing which create bands of pattern. The repetition of
dark strokes in the border forms a choppy rhythm and is balanced by the even, sedate rhythm in the words.

18. **Justice and Mercy**

A change in the nib-width emphasizes two words. Color is used to give additional importance to one of them.

19. **Shapes of Letters**

In this symmetrical design, three words are emphasized by their position and by being written in a different hand. There is also a change in nib-width and a gradation of color flows through the area that is emphasized.

20. **Subtle Part**

With the total area filled with letters, each word is a separate pattern and also a part of the overall pattern. Interlinear distance and the distance between words are similar. There is rhythm in the hand in the repeated strokes. The red, horizontal lines set up a rhythm also.

21. **Land**

Movement through the design is carried by color gradation, areas of pattern, repetition of a word, and a change in nib-width for the humanistic cursive.

22. **Freedom**

This design emphasizes the repetition of the lemon-shaped counter in Roman majuscules. The large 0 is black, not for design qualities, but for the purpose of instruction.

23. **Age of Five**

Areas of pattern are balanced against curved numerals. Nib-width and color are used to determine the value of each area.
CONCLUSIONS

Letter forms are the medium of calligraphy. They are the objects to be shaped and arranged. They grow under the artist's hand as he guides a tool over a surface. Ink or paint record their structures. Their forms are limited by the requirements of legibility, but a well-designed alphabet combines legibility with repetition and variety in its elements.

Almost two thousand years of designing handwritten alphabets have provided a rich source for today's calligrapher. Since the advent of printing, typography has added to our understanding of alphabet design. Readily available to the student of letters are typefaces both of excellent quality and of poor design. Both the successes and mistakes increase knowledge about letter form design.

A revival of calligraphy in the twentieth century, largely inspired by the study, art work, and teaching of Johnston, has renewed knowledge about the methods of the scribes who worked in the centuries before printing.

Paleographers, too, have added to the knowledge of where and when and why various forms of the Roman alphabet developed.

In recent years the work of calligraphers shows a growing interest in expanding the design potential of their art.

It is said that calligraphy was first ended by the printing press, and then, after its use for many years as a tool of business and a mark of gentility, it was again rendered unnecessary by the typewriter. The optimistic thought proposed is that calligraphy is now indestructible because it has been accepted as an art form. If it is to endure for this reason, teachers should teach more than skill in the writing or drawing of good letter forms.
They need to teach more than good spacing of letters and words and lines of words. Those skills are basic, but there is a danger that students may not go beyond technique to an understanding of composition and expressiveness.

The plates in this thesis were designed as a contribution to the teaching of composition and expressiveness.

The examples illustrating each of the design techniques begin an exploration of their application to calligraphy.

A related study which might suggest other criteria, as well as other applications of the criteria in this thesis, would be an analysis of the relationship of script to other art in any given period. For example, in Celtic art the same curling, labyrinth of lines was carved in stone as was used to decorate the manuscripts. It is often suggested that black letter mirrors Gothic architecture. There may be similarities between the rounded arches of Romanesque architecture and the round counters of some styles of script.

Study of the application of the techniques of composition to typography may be instructive to calligraphers. Great skill has been developed in designing with typography and excellent examples are readily available for analysis. Many calligraphers are not taking advantage of this resource. We are often focused only on pre-fifteenth century designs.

Expressiveness, on the other hand, is perhaps suffering from too much experience with typography. Typography has accustomed our eyes to regularity and exact repetition of forms. The calligrapher may establish consistency as his most important standard. In that case, he might better use his skills in designing with type and not in striving toward an impossible goal of duplicating by hand the work of a mechanical device.
Much work can be done in the area of exploiting the unique medium of calligraphy. An interesting study would be to apply calligraphy to advertising art. When could calligraphy offer a better design solution than typography? How could advertising design utilize the expressive potential of calligraphy?

I think that calligraphy will benefit from analysis using some of the criteria of other forms of art. Its function as both a literary and visual communication can be enhanced by greater understanding of the application of compositional skills. I look forward to new thinking and experimentation in this aspect of calligraphy.
SOURCES CITED


Glossary

Meaning of Terms As Used in This Paper

arm - horizontal letter part (except in A, H, t and f).
ascender - minuscule letter part that rises above the waist line.
body - the part of a minuscule letter that is between the waist and base line. It does not include either an ascender or descender.
cant - the angle between the edge of a square-edged writing tool and the horizontal writing line.
counter - an enclosed area or implied enclosure within a letter.
crossbar - horizontal letter part in H and A, also on minuscule t and f.
descender - minuscule letter part that drops below the base line.
fillet - curve joining stem or arm to serif tip.
guide line set - guide lines necessary to define each line of letters. Two guide lines compose a set for majuscules. There are four guide lines in a minuscule set.

hand - style of alphabet.
interlinear space - negative space between lines of letters.
interspace - negative space between letters.
lobe - circular letter part (also bowl, bow).
majuscule - letter written between two guide lines--cap and base line. It is a capital, large, or upper case letter.
minuscule - letter defined by four guide lines—ascender, waist, base, and
descender or drop line. It is a small or lower case letter.
The body of a minuscule letter fits between the waist and base
line.
nib-width - width of square-edged writing tool.
serif - short addition to stroke endings.
stem - primary vertical stroke of a letter.
swash - elongated stroke used for design purposes.
weight - relationship of nib-width to letter height.
x-height - space between base and waist line. The height of minuscule
   bodies.
Z-height - space between base and cap line. The height of majuscules.
Calligraphers

Edward Johnston  b. 1872 d. 1944  England

Johnston is credited with the revival of calligraphy in the twentieth century. In 1906 he wrote *Writing & Illuminating & Lettering*. It is still in print and used as a reference. Johnston's illustrious pupils included Eric Gill, Graily Hewitt, Ernst Detterer, and Irene Wellington.

Eric Gill  b. 1882 d. 1940  England

Gill cut letters in stone, was a sculptor, and designed the typefaces "Perpetua" (1925) and Gill Sans (1927). His *Autobiography* was published in 1940.

Rudolf Koch  b. 1896 d. 1934  Germany

Koch designed handwritten books, tapestries, woodcuts, and numerous typefaces. He is best remembered for his work with black letter.

Edward M. Catich  b. 1906  United States

Fr. Catich is a calligrapher, teacher, priest, and the author of scholarly books based on his study of the Trajan inscription. He wrote a definitive book on the Trajan inscription letters, *Origin of the Serif*.

Heather Child  Birth date unknown; still active. England

Child is both an author and calligrapher. Her book titles include *Heraldic Design, Formal Penmanship, and Calligraphy Today*. *Formal Penmanship* is a compilation of the papers of Edward Johnston.
Donald Jackson  b. 1938  England

Jackson is a scribe in the Crown Office at the House of Lords. His work includes private commissions. During the academic year 1976-77, he was a visiting professor at California State University, Los Angeles. He helped found several calligraphy societies in the United States.