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A New Digital Calligraphic Font

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Thesis Project Definition

Thesis Project Definition

For this thesis, it is proposed to revive Wang Hsi-chih's calligraphy through contemporary, digital technology. Currently, Chinese digital fonts are not as numerous as English fonts, and there exists no calligraphic font inspired by the work of Wang. This thesis project involves a revival of master Wang's unique calligraphic style into a digital calligraphic font. This thesis study aims to help Asian graphic designers have more powerful tools to express their visual communication concepts. Reviving Wang's work through a digital font also has cross-cultural benefits because his calligraphy has influenced and been loved by so many designers and artists across Asia. The products of this thesis will be the font design and several graphic applications.

Calligraphy has been studied for thousands of years in Asia. Calligraphy is not merely an exercise in good handwriting, but rather the foremost art form of the Orient. A knowledge of calligraphy is an important step in the understanding of Asian culture. It is the fusion of the skill and imagination of the person who has studied calligraphy intensely. Western calligraphy was intended to suppress individuality and produce a uniform style. Chinese calligraphy attempts to bring words to life, and endow them with character. Styles are highly individualistic, differing from person to person. Chinese calligraphy presents a problem for westerners trying to understand it; the work is completed in a matter of seconds so the westerners cannot really appreciate the degree of difficulty involved. However, it is spontaneous that the characters must be written only once.

In addition to being used as an art form, many countries like China, Japan, and Korea have been using Chinese letterforms as a major communication method for thousands of years. Unlike the English alphabet, Chinese letters represent *shape* and *meaning* simultaneously. Thus as many as fifty thousand letters have been created to indicate different objects, animals, and abstract concepts like time, mood, etc. Helpful not only for efficient communication, the Chinese letters have also been used to establish the field of calligraphy in Asia. For centuries, many Asian calligraphers have created their own styles in Asia. In addition to the calligraphers, numerous painters, sculptors, and ceramists choose to combine their art with calligraphy because of its magnificent design, beautiful line, and deep meaning.

Wang Hsi-chih (303-379 A.D.), official of the Jin dynasty was the greatest calligrapher who ever lived. He was known as the greatest calligrapher of the Walking Style (see page13, Research) in history, and certainly a rich source of legend and story, even for calligraphers today. Living in the fourth century A.D., he was among the first to elevate handwriting from purely practical use to artistic status. The elegant Wang style, as fully represented by the existing original pieces, has had a profound influence on Asian calligraphy in China, Japan and Korea.

The emperor Tang T'ai-tsung loved Wang's calligraphy so much that he collected as many of Wang's original scrolls as he could and ordered them buried with himself. Thus, the only existing calligraphy of Wang Hsi-chih, including the Lan Ting Prologue, are preserved on stone engravings or as replica copies generated by other calligraphers.

Thesis Project Definition Continued

Some of his best writings were preserved on carved stone tablets. Stone rubbings taken from them have been reproduced and reprinted widely; they have been studied by generations of students and used as examples to learn and practice the art of calligraphy. His calligraphy is believed to be Pan-Asian and is loved by most Asian artists and designers. Only a few of his original works remain today.

Research

Reviving Wang's calligraphy into a digital calligraphic font will involve four major tasks: The first one is to understand the basics of Chinese calligraphy, and the style of Wang Hsi-chih. Generally it is believed that five categories of calligraphic styles exist in Chinese calligraphy. Wang's calligraphic style is believed to belong to the *Walking Style*. Researching through books and magazines on Chinese calligraphy will be required to understand the principles of Chinese calligraphy with a focus on the work of Wang.

The second task is to collect as many reproduction copies as possible of original Wang calligraphy. The process of collection will be carried out by consulting many technical journals in Chinese calligraphy, and researching Websites which are related to Chinese art.

The third task is to acquire the computer skills which are needed to generate the digital calligraphic font. Many font manufacturing applications are available for both PC-based and Macintosh-based stations. Research to choose the appropriate software will be done by consulting with professionals in the digital font production field. After choosing the appropriate software, skills required to generate the calligraphic font will need to be developed.

The final task is to apply the produced digital calligraphic font into appropriate graphic design applications. To inform this task, research into existing applications of calligraphic fonts will be required. These examples will be collected from design magazines, art books, World Wide Web, Asian ethnic periodicals, and other sources. The collected samples will be categorized by their characteristics.

Basically the Chinese letters are the main communication method in China, Korea, Japan, and Taiwan. Before the 19th century, Chinese calligraphy was used mainly as an element in oriental painting. However since the end of the 19th century, calligraphy has been used in graphic design applications such as posters, magazine covers and packaging.

Through these research processes, it is learned where the digital calligraphy could be applied in graphic arts industry. It should be also noted that more and more graphic designers have started using the digital calligraphy in Asia and around the world. With the help of computer technology, the digital calligraphy will be available to graphic designers and artists more conveniently.

History: Chinese calligraphy

Calligraphy is an art dating back to the earliest recorded history, and widely practiced throughout China to this day. Chinese calligraphy can be traced back to the Shang Dynasty. It matured in the Dongzhou Dynasty. Official script was popular in Han the Dynasty, while Cursive script, Regular script and Walking hand emerged during the Weijing Period. The latter three styles reached their peak in the Tang and Song Dynasties.

Calligraphy is an art unique to Asian cultures. Regarded as the most abstract and sublime form of art in Chinese culture, "Shu Fa" (calligraphy) is often thought to be most revealing of one's personality. During the imperial era, calligraphy was used as an important criterion for the selection of executives to the Imperial Court. Unlike other visual art techniques, all calligraphy strokes are permanent and incorrigible, demanding careful planning and confident execution. Such are the skills required for an administrator and executive. While one has to conform to the defined structure of words, the expression can be extremely creative. To exercise humanistic imagination and touch under the faceless laws and regulations is a virtue well appreciated.

By controlling the concentration of ink, the thickness and absorbency of the paper, and the flexibility of the brush, the artist is free to produce an infinite variety of styles and forms. In contrast to western calligraphy, diffusing ink blots and dry brush strokes are viewed as a natural impromptu expression rather than a fault. While western calligraphers often pursue font-like uniformity, homogeneity of characters in one size is only a craft. To the artist, calligraphy is a mental exercise that coordinates the mind and the body to choose the best styling in expressing the content of the passage. It is a most relaxing yet highly disciplined exercise for one's physical and spiritual well being. Historically, many calligraphers were well-known for their longevity.

Calligraphy is not only loved and practiced by Chinese. Koreans and Japanese equally adore calligraphy as an important treasure of their heritage. Many Japanese schools still have the tradition of having a student contest of writing big characters during the beginning of a new school year. Not too long ago, Korean government officials were required to excel in calligraphy.

Recently, many of the elements of calligraphy are becoming adapted by modern Western art, especially in graphic design. In computer advertisements, one frequently finds the use of calligraphic, free-form lettering in lieu of the more mundane Times Roman and Arial fonts.

History: Chinese calligraphy/Style

Through the millennia, the style of Chinese calligraphy has evolved continually. About 213 B.C., under the famous Jin Shihuang Ti who unified China first in Chinese history, the Prime Minister Li Szu drew up an official index of characters and unified the written form for the use of scholars. This index is called Chuan-shu. This Chuan-shu contained more than 3,000 characters. Since that time, there have been five major styles of calligraphy: Shell Bone Style, Seal Style, Official Style, Regular Style, and Grass/Walking Style (The Japanese call these tensho, reisho, kaisho, gyosho, and sosho styles.) Figure 1 shows the introduction of each of these five styles.

It is remarkable that after two thousand years, all five styles of writing are still in use today. Examples of each calligraphic style are presented on the following pages.

Style	Starting Time
Shell Bone	Pre-Jin period (2000 BC - ?)
Seal	Jin-Han dynasties (221 BC - 220 AD)
Official	East Han dynasty (25 - 220 AD)
Regular	Han dynasty (173 AD)
Cursive: Grass	Han dynasty (about 48 BC)
Walking	Han dynasty (87 AD)

Figure 1. The Starting Times of Calligraphic Styles

History: Chinese calligraphy/Shell Bone Style

Chinese calligraphy dates back to the legendary Yellow Emperor (2898-2679 BC). His chief secretary Chang Jie decided there must be a better place to keep records than in his own head, and consequently searched nature for inspiration. The script that he created was based on the curves of tree branches, animal tracks and other gifts of nature. It's obvious that people carved Shell Bone Style onto tortoise shells and other such things using knives. Calligraphers today imitate the knife-strokes on paper. Strokes are generally even, and begin and end slightly sharply. The example of Shell Bone Style is shown in Figure 2.

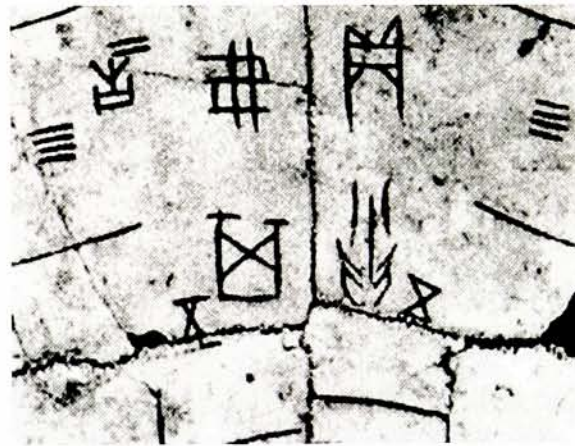


Figure 2: Shell Bone Style

History: Chinese calligraphy/Seal Style

The Seal Style is generally divided into two stages: the first, Large Seal Style and the second, Small Seal Style. Surprisingly, this has nothing to do with size. Large Seal Style was a logical offshoot from Shell Bone Style. The first Jin Emperor, Jin Shihuang Ti, was notorious for burning thousands of scholars upon thousands of books, and for the burning act that unified China's myriad of languages and scripts. His censorship changed the rather messy Large Seal Style to a neater Small Seal Style.

Seals used to be people's official signatures, and the script that is used for seals is traditionally Seal Style. Seal Style characters are generally tall, and neater versions (Small Seal Style) look symmetrical even if they are not. It allows for more flexibility than the Shell Bone Style quite — although strokes have to be the same thickness, they are a collection of curves rather than straight lines. Its effect is rather graceful, as a whole; like a lot of snakes curving and dancing. An example of Seal Style is shown in Figure 3.

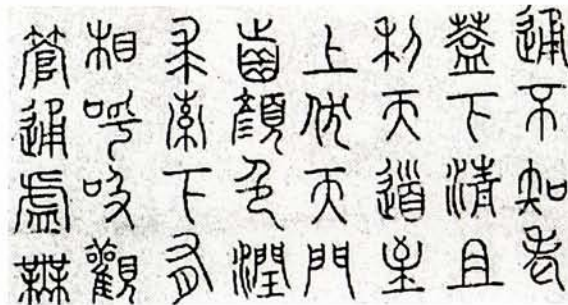


Figure 3: Seal Style

History: Chinese calligraphy/Official Style

Jin Shihuang Ti (the first Jin Emperor) was an easy man to offend. Cheng Miao, the inventor of Official Style, discovered this when he was given an enormous quantity of work to copy overnight. Unable to finish, he was thrown into jail by this emperor.

Cheng Miao blamed it all on the Seal Style, which is difficult to write in large quantities. Cheng Miao therefore created the Official Style, a simplified and otherwise modified script, thereby securing a pardon. Official Style became the style for clerks to write in, and was also known as Slave Style due to its origins. Perhaps Cheng Miao simply had a grudge against Seal style, but he gave the Chinese language a script of enormous artistic potential. It is not just that Official Style tends to be short and wide that makes it different. It has a rhythm and bounce that makes it almost a pleasure for scribes to write all day. Strokes go from thick to thin to thick, all in one pass of the brush (unlike former single-thickness strokes). An example of Official Style is shown in Figure 4.



Figure 4: Official Style

History: Chinese calligraphy/Regular Style

Regular Style is used everywhere today: on signboards, textbooks, computer screens. It is the Helvetica of calligraphy. It is a simple style, clean, straight and matter-of-fact in its lines. Characters fit roughly into squares. Though strokes vary in thickness, they do not swing and curve as much as those in Official Style. Regular Style is distinctive for its similarity to Official Style. An example of Regular Style is shown in Figure 5.



Figure 5: Regular Style

History: Chinese calligraphy/Walking and Grass Styles

The cursive styles, like Walking Style and Grass Style are very important for calligraphers to know. While Walking Style is more or less equivalent to English cursive, Grass Style is slightly different. Walking Style is characterized by strokes that join and frequently merge, and some short forms are used. Grass Style appears to have a totally different set of characters from Regular Style, and uses short forms fanatically. It is often so joined-up that it looks like one long, twirling ribbon. If it is completely illegible, it's Grass Style. If it is a little bit easier to identify, then it is probably Walking Style. It can be speculated that Figure 6 is a prime example of Grass Style. Almost all notable calligraphers have been experts in this area. The greatest calligrapher in this field is generally accepted to be Wang Hsi-chih. In particular, his Lan Ting Prologue was written in Walking Style.

Sometimes, a style doesn't fit neatly into a category. When in doubt, we combine the names of two styles. We can call this kind of ambiguous style as Grass and Walking Styles.



Figure 6: Walking and Grass Styles

History: Chinese calligraphy/Guidelines

To the trained eye the difference is instantly discernible, but just as with western art or music it may be difficult to describe. Think of calligraphy in terms of music. The poem is like the musical score and the calligrapher like the pianist; each tries to interpret the score to produce a memorable rendering.

History: Calligraphy of Wang Hsi-chih

“Wang Hsi-chih (his chronology is available in Appendix A), also named I-shao, came from the province of Shantung. His father, Wang Tao (276-339 A.D.), a Prime Minister, was also an outstanding calligrapher, as were his brothers and cousins” (Tseng Yu-ho’s *Chinese Calligraphy*, chapter 9). Eleven generations of Wang’s family were highly regarded as calligraphers, but Wang Hsi-chih was the most celebrated one of all. He started practicing calligraphy at an early age, and mastered many styles, especially the Regular, Walking, and Cursive scripts. His creative style became the most influential of any artist’s throughout the history of Chinese calligraphy. Wang Hsi-chih’s legacy has been invaluable to the Walking Style.

The T’ang Emperor T’ai-tsung encouraged the systematic pursuit of the classical art of calligraphy. He was an enthusiastic admirer of Wang Hsi-chih, whose works in all styles -- no less than 2,200 – were collected in his palace. The artist-scholars Yu Shih-nan and Ch’u Sui-Liang authenticated them and acted as curators for his collection. T’ai-tsung engaged master artists to make traced copies of some of the best works of the Wang’s family, and had them meticulously mounted in hand scroll form. While the original works have been lost, many of the copies have survived to our day (credited from Tseng Yu-ho’s *Chinese Calligraphy*, chapter 9).

The most famous of all Chinese calligraphers, Wang Hsi-chih of the Chin dynasty, was chiefly distinguished for his Grass Style. He was fortunate in being highly favored by the second Emperor of T’ang, the great T’ai Tsung, who was himself a calligrapher. This Emperor was devoted to Wang’s writing and took utmost pains to collect examples of it, for which he paid very high prices. The court officials were commanded to imitate them, and a fashion was thus started which has prevailed to the present day. Young writers still like to model their style on that of Wang Hsi-chih.

The original Lan Ting Prologue, allegedly written by Wang Hsi-chih at the prime of his calligraphy career (51 years old, 353 A.D.), is universally recognized as the most important piece in the history of Chinese calligraphy. The elegant Wang style, as fully represented by the original piece, has had a profound influence on Asian calligraphy in China, Japan and Korea. The emperor Tang T'ai-tsung loved Wang's calligraphy so much that he collected as many of Wang's original scrolls as he could and ordered them buried with him when he died. Thus, the existing calligraphy of Wang Hsi-chih including the Lan Ting Prologue are only preserved on stone engravings or as copies produced by other calligraphy masters of the Tang dynasty.

The beauty of Chinese calligraphy, like music and dance, goes beyond language barriers. One may appreciate the visual impact of the composition in its entirety, or feel the continuous flow of "Qi" of the strokes in a balanced contrast of rhythmic movements. Nevertheless, knowing the language may offer a better understanding.

Examples of Wang Hsi-chih's calligraphy are located in Appendix C

History: Chinese Letterforms

It is impossible to speak with certainty about events of four thousand or more years ago, and in tracing the origins of Chinese characters we can only draw rough conclusions.

Structure

It is often said that every Chinese character is a picture, but only a couple hundred are actual pictographs. Some of these are still interpretable, like tree (木), but most are now written in a way that is hard to immediately discern their meaning, like horse (馬) and bird (鳥).

There are also a very small number of simple ideographs which suggest an abstract idea directly, like one (一). All the rest of Chinese characters are based on these pictographs and simple ideographs.

Around 100 A.D., the scholar Hui-Jin wrote the etymological dictionary, Sul-Mun-Hae-Ja which differentiates six types of characters. First are these pictographs, Sang-Hyung-Ja (形聲字) and simple ideographs, Ji-Sa-Ja (指事字). These characters combine to create two additional types of characters, logical aggregates, Hui-Yui-Ja (會意字) and phonetic complexes, Hyung-Sung-Ja (象形字). Logical aggregates combine the meanings of different characters to create a new meaning. Phonetic complexes combine the meaning of one character with the sound of another.

The final two types of characters represent transformations in the meanings of the first four types described above. Associative transformations, Jeon-Ju-Ja (轉注字) extend the meaning of a character to a related concept. Borrowings, such as Ga-Cha-Ja (假借字) give an unrelated meaning to a character, generally that of a spoken word which has the same pronunciation as the borrowed character but lacks its own.

形聲字	Sang-Hyung-Ja	Pictographs
指事字	Ji-Sa-Ja	Ideographs
會意字	Hui-Yui-Ja	Logical aggregates
象形字	Hyung-Sung-Ja	Phonetic complexes
轉注字	Jeon-Ju-Ja	Associative transformations
假借字	Ga-Cha-Ja	Borrowings

Font-developing Techniques

To develop a digital font based on Wang's work, replicas of Wang's original calligraphy will be required. These copies can be acquired from the existing documents on Wang's calligraphy. A font developing software will be needed to scan, edit and generate the new digital font. Macromedia Fontographer is the most popular and affordable software. Fontographer will be used to carry out this aspect of the thesis project.

Synthesis

These categories are based on characteristics among all of the examples of applied calligraphy that have been gathered during the research process. Calligraphy can be organized into two main categories.

1. Calligraphy only

because it is highly aesthetic and abstract, the calligraphy is used independently. (see Appendix B)

2. Calligraphy with image

because of its simple and strong design, calligraphy is often used with images. (see Appendix B)

- a. **calligraphy follows image:** looking like a part of an image, calligraphy follows an image.
- b. **calligraphy as image:** an assemblage of a calligraphy looks like an image that the calligraphy stands for.
- c. **calligraphy as label:** calligraphy is used as a title.
- d. **calligraphy as contrast:** a western style layout or imagery is combined with Chinese calligraphy.
- e. **calligraphy with English:** chinese calligraphy is combined with English typefaces.
(examples are not available)

Ideation

Ideation

As a way of applying and testing the new digital calligraphic font and the categories described on page 20, a series of prototype posters were developed for Greenpeace to use in promoting environmentally and socially responsible forest use. These posters will remind people of the relations between humans and trees in an illustrated manner.

Greenpeace is an independent, campaigning organization which uses non-violent, creative confrontation to expose global environmental problems, and to force the solutions which are essential to a green and peaceful future.

Worldwide, 76% of the planet's original primary forests have already been destroyed or degraded. Still the onslaught continues, primarily through destructive logging for wood and paper production by irresponsible transnational corporations. Tropical rainforests alone are being reduced at a rate equivalent to an area the size of the Netherlands and Switzerland each year.

A tree is selected as a symbol of forest because it is a main element of forest. These Greenpeace posters will be targeted toward audiences in Asian countries like China, Japan, Korea, and Taiwan. Chinese calligraphy, in the new digital form, will be used in these posters because Chinese characters are widely understood as a main communication method in northeast Asia.

The importance of trees can be categorized in many ways. The following three approaches were chosen for this design application:

1. Trees as components of a healthy environment

This approach accentuates the role of trees in the production of oxygen which is essential to positive ecology. Trees provide clean and healthy environments. (see Appendix D)

2. Trees as an influence on civilization

This approach accentuates the role of trees in the development of human civilization. Trees provided humans with materials for their early tools. (see Appendix D)

3. Trees as protection

This approach accentuates the role of trees in providing humans with shelter. This shelter has taken many forms from simple shade to more complex, built structures. (see Appendix D)

The three concepts related to trees described above will be communicated through the use of calligraphy. The categories and sub-categories of calligraphic use described on page 20 will be used in the ideation stage of this project.

Evaluation

Evaluation

A total of seventy-three ideation sketches have been made. The evaluation of preliminary poster layouts can be executed in a variety of ways. Criteria of simple layout, strong design, appropriate concept, and aesthetic color have been employed to select the six applications to satisfy above criteria.

The evaluation has been conducted under the discussion with a chief advisor, and two associate advisors. Every sketch during this ideation stage has been discussed from their inception.

Implementation

Implementation

Implementation involved creating a new digital font based on Wang's calligraphy, and producing six poster designs using this font.

a. New digital font

After collecting and studying numerous examples of Wang's calligraphy, a digital font was created in MacroMedia Fontographer. The principles for reviving Wang's calligraphy into this new digital font were to maintain the aesthetics of the original work as closely as possible. The examples of the digital font are can be found Appendix E.

b. Poster

As explained designs on page 20, Synthesis, and Ideation, there are six categories for calligraphy: calligraphy only, calligraphy follows image, calligraphy as image, calligraphy as label, calligraphy as contrast, calligraphy with English, and three for trees: tree as components of a healthy environment, tree as an influence on civilization, tree as protection) were also identified. The categories of calligraphy and the concepts for trees were combined in the following across six poster designs (see Appendix F):

- | | |
|-------------------------------------|---|
| 1. calligraphy only | tree as an influence on civilization |
| 2. calligraphy follows image | tree as protection |
| 3. calligraphy as image | tree as components of a healthy environment |
| 4. calligraphy as label | tree as protection |
| 5. calligraphy as contrast | tree as components of a healthy environment |
| 6. calligraphy with English | tree as an influence on civilization |

These six design applications are located in Appendix G.

Generally the impression of emptiness, which is the one of the main characteristics of Chinese calligraphy, has been accentuated across six applications. In **calligraphy only**, the typographic structure of the Chinese letter of *tree* (木) has been stressed.

In **calligraphy follows image**, the beauty of the curved lines of the digital calligraphic font was emphasized. The color green was also significant as the poster was produced by Greenpeace.

In **calligraphy as image**, oxygen drops were effective in illustrating the contribution of trees to a fresh and healthy environment. Color and image decisions were accentuated.

In **calligraphy as label**, the Chinese letters (保护) were used as a label, to communicate *protection*. The color orange was chosen for this label because a warm color could be naturally associated with the meaning of protection naturally.

In **calligraphy as contrast**, the natural shapes of Chinese calligraphy were contrasted with the mechanical shapes on the right side of the poster composition.

In **calligraphy with English**, typographic decisions stressed different approaches toward effectively combining Chinese calligraphy with English letterforms. Various typographic size relationships were explored while working in this category.

Dissemination

Dissemination

As a PostScript or True Type font in a CD-ROM, this digital calligraphic font will be distributed to numerous graphic designers and artists in the world through font-design companies. In particular, graphic designers and artists in north-eastern Asia who use Chinese letters as a communication method may appreciate being able to use this digital calligraphic font to express their ethnic cultures, philosophy, and so on.

When Greenpeace wants to publicize its effort to protect endangered forests, particularly on north-eastern Asia, the posters will be published through the Greenpeace agency on north-eastern Asia.

Retrospective Evaluation

Retrospective Evaluation

A questionnaire was developed asking viewers' opinions on final decisions related to composition, color, etc. in the poster layouts (see Appendix I). A summary of these questionnaires is also available in Appendix H.

These questionnaires were handed out to twenty north-eastern Asian students at Rochester Institute of Technology, because they are able to recognize and understand the Chinese characters easily. These twenty students are evenly distributed across academic levels (freshman, sophomore, junior, senior, graduate first year, and graduate second year), majors (graphic design, and non-graphic design), and gender among Asian students at Rochester Institute of Technology. The responses said that the concept, composition, color and layout of the poster designs were generally good. It is also surveyed that the aesthetics of Wang's original calligraphy has been successfully reproduced at the digital calligraphic fonts.

Prior to the use of a formal questionnaire, oral evaluations were conducted during the thesis exhibition period in the RIT Bevier Gallery (April 10, - April 23, 1998). They also received generally good impressions from the viewers. However requests to improve the display techniques were suggested, like a using an wood-frame rather than a simple mounting on the plastic-board.

Additional feedback from Professors Roger Remington and Bruce Ian Meader at the Rochester Institute of Technology was also collected (see Appendix H). This feedback included specific opinions of the two instructors on this project as displayed in the thesis exhibition.

Summarizing all evaluations above, the digital calligraphic font and six applications are successful in fulfilling their original initiatives. The digital calligraphic font revived Wang's calligraphy well enough for the audiences to find Wang's unique calligraphic style from the digital font seamlessly. The six applications nicely advertised the effort of Greenpeace to protect the endangered forests. The combination of images and the digital calligraphic font was appropriate visually and conceptually.

Conclusion

Conclusion

Through the process of this thesis project, the following aspects have been experienced and learned:

1. a deeper understanding of Wang Hsi-chih's calligraphy
2. a fundamental understanding of font-developing techniques
3. different approaches toward the use of Chinese calligraphy with English letterforms
4. different approaches toward the application of Chinese calligraphy in graphic design solutions
5. cross-cultural characteristics of Chinese calligraphy

It is hoped that a variety of graphic designers and artists in the world, who want to use Chinese calligraphy in their work, will be able to have an access to this new digital calligraphic font as soon as possible. It will be required to contact font-design companies to develop this digital calligraphic font into a standard typeface, and distribute it around the world.

Glossary of Terms

Glossary of Terms

Aesthetic	<p>A branch of philosophy, the theory or conception of artistic beauty. Aesthetic concerns the description and explanation of artistic phenomena. In recent years the term has come to define any exploration of what constitutes a sensitivity to creative forming, and the relationships between art and other disciplines and concepts such as science, religion, morality, and philosophy.</p>
Calligraphy	<p>The specialized art of creating fine hand lettering. The name is derived from the Greek word "kalligraphia", meaning beautiful handwriting.</p>
Communication	<p>In the visual arts, any of the following basic components of optical experience: line, value, color, shape, texture, mass, and space.</p>
Digital Type	<p>Type created from an electronic font whose character images are built up from minute dots created by the typesetter.</p>
Element	<p>The part, component or variable of form within a format.</p>
Font	<p>The matrix from which characters of a typeface are generated. Computerized fonts consist of electronic data that describe all aspects of the complete character set of a given typeface.</p>
Function	<p>The purpose in which all graphic design form exists. Function means "design that works" for its intended purpose and may be the difference between art and design.</p>
Format	<p>The term used to describe the appearance and style of an illustration or page.</p>

Glossary of Terms continued

Grid	A way of scaling up or down by tracing the image and dividing it into equally-ruled boxes. The key points are then plotted and transferred onto a correspondingly larger or smaller boxed grid.
Image	The visual subject matter of an illustration, design or photography.
Layout	A grid that holds all the text and illustrations in their exact positions with instructions for scaling, etc.
Objective	In art, a sensitive and faithful statement of observed facts about the subject, with little or no subject interpretation.
Software	Refers to the various programs available for computers.
Space	In the visual arts, intervals between fixed points or boundaries on the picture plane (two-dimensional space) and areas possessing depth as well as length and breadth (three-dimensional space).
Synthesis	The combination of elements or parts so as to form a unified entity, or whole.
Typography	The art, general design, and appearance of printed matter using type.

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James Felici, *Desktop Publishing Skills*. Reading, MA: Addison-Wesley, 1987

John Baxter, *Macintosh Desktop Typography*. Sunnyvale, CA: Baxter Group, 1984

Erfort Fonton, *The Macintosh Font Book*. Berkeley, CA: Peachpit Press, 1986

Robin Williams, *The Little Mac Book*. Berkeley, CA: Peachpit Press, 1995

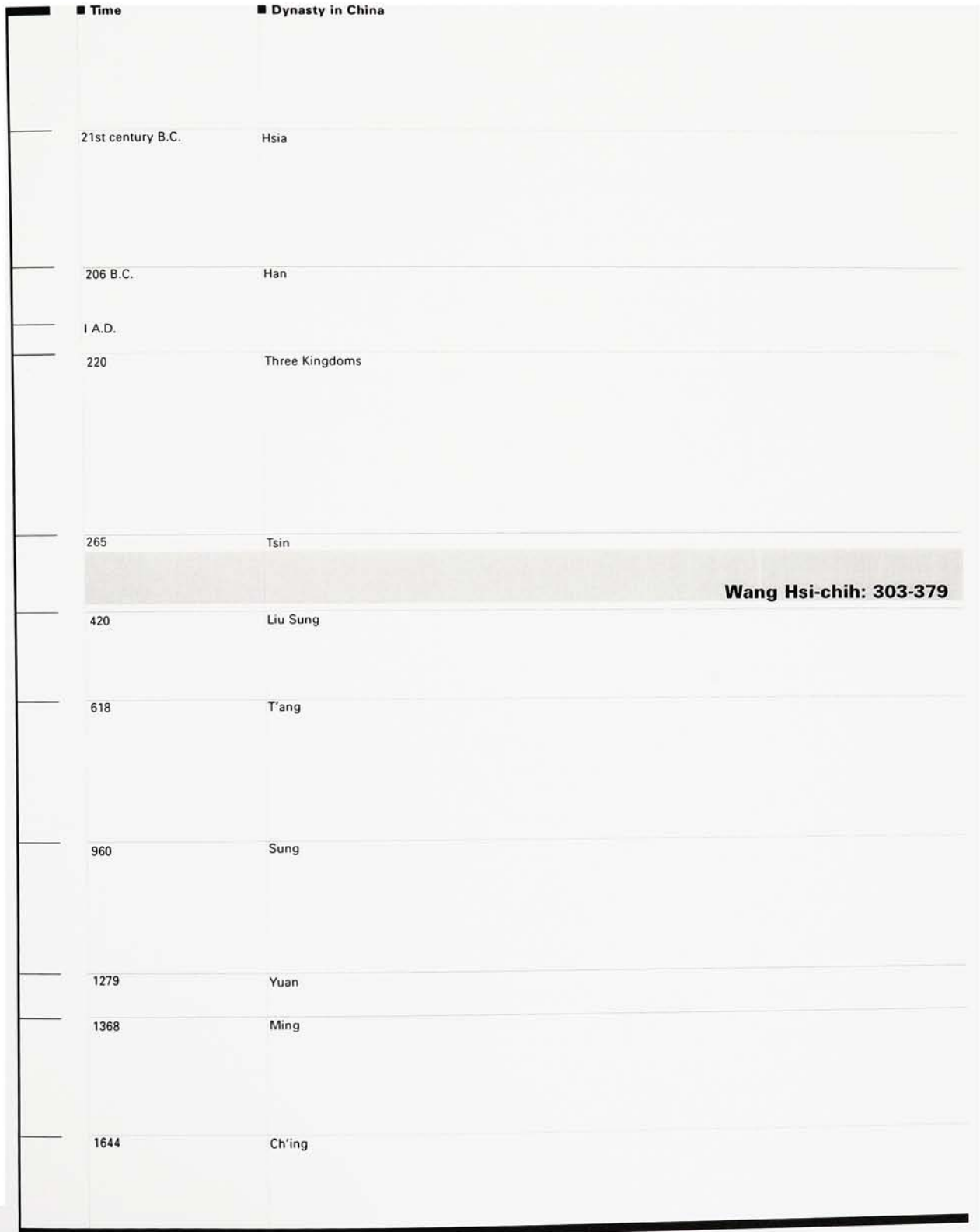
Web Sites

Japanese Calligraphy, <http://mmm.wwa.com/ohmori/intro1.htm/>

Appendices

Appendix A

Wang Hsi-chih's Chronology



Appendix B

The Way Calligraphy Has Been Used in Asia

	Calligraphy Only	Calligraphy with Image			
		Calligraphy follows Image	Calligraphy as Image	Calligraphy as Label	Calligraphy as Contrast
Past (-19th)					
Present (20th-)					

Appendix C

Examples of Wang Hsi-chih's Calligraphy

勢分勿以以以以以
 必必皆十十十十十
 廿廿廿廿廿廿廿廿
 之之之之之之之之
 及及及及及及及及

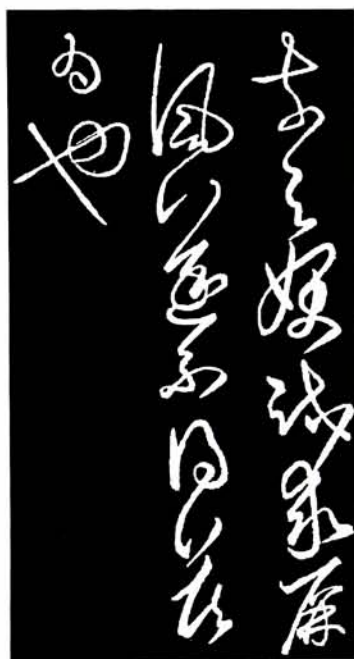
Wang Hsi-chih' Calligraphy Collection
 Wang's calligraphy examples

列坐其次雅無絲竹管絃之
 感一觴一詠上足以暢敘幽情
 是日也天朗氣清惠風和暢仰
 觀宇宙之大俯察品類之盛
 所以遊目騁懷足以極視聽之
 娛信可樂也夫人之相與俯仰

Wang Hsi-chih' Calligraphy Collection
 Wang's calligraphy examples

法在者見法為形當
 尹蜀中子之朱者地池
 以屋樓觀以是事時
 引為錯心修為尔尔尔
 示為氣度異中

Wang Hsi-chih' Calligraphy Collection
 Wang's calligraphy examples



Chinese Calligraphy
 Stone engraving



Chinese Calligraphy
 Taoist scripture



Chinese Calligraphy
Ink rubbings



Wang Hsi-chih' Calligraphy Collection
Wang's calligraphy examples



Wang Hsi-chih' Calligraphy Collection
Wang's calligraphy examples



Wang Hsi-chih' Calligraphy Collection
Wang's calligraphy examples

Appendix D

Trees as Components of a Healthy Environment

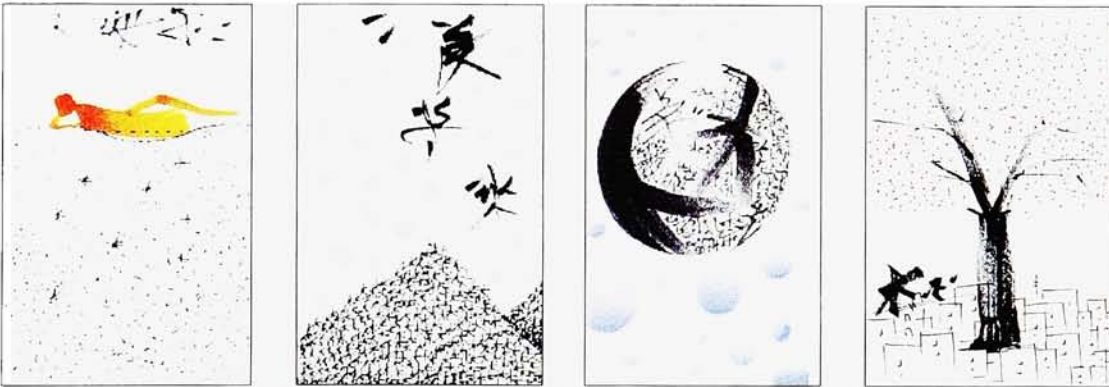
A. Calligraphy only



B. Calligraphy follows Image



C. Calligraphy as Image



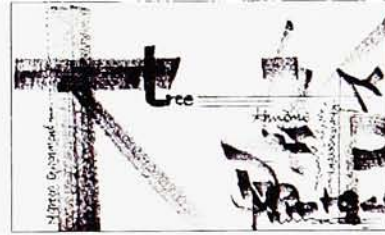
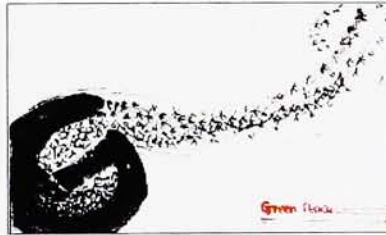
D. Calligraphy as Label



E. Calligraphy as Contrast



F. Calligraphy with English



Trees as an Influence on Civilization

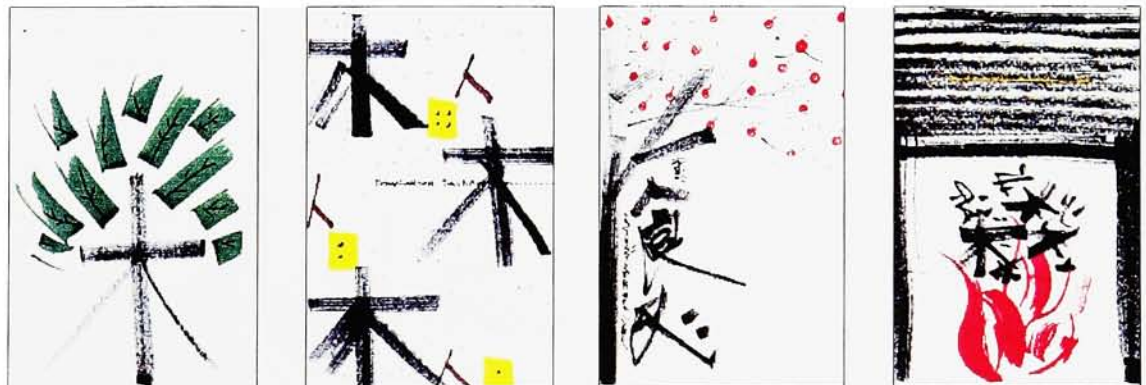
A. Calligraphy only



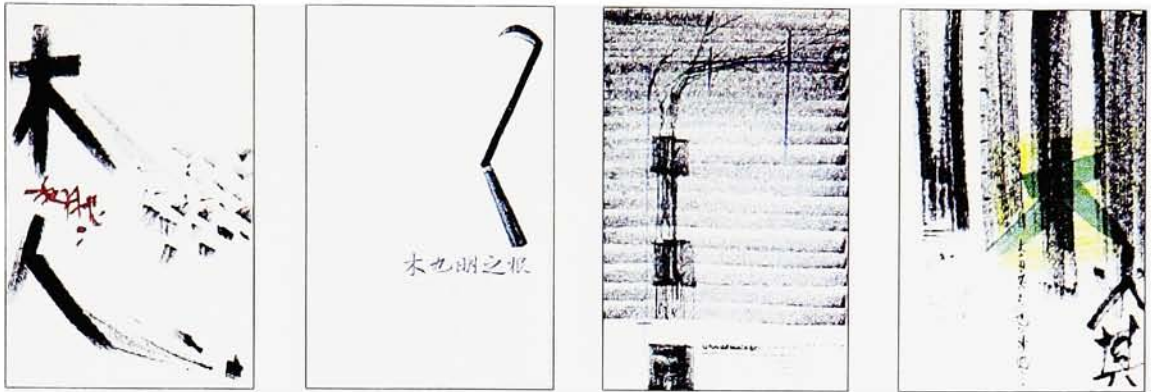
B. Calligraphy follows Image



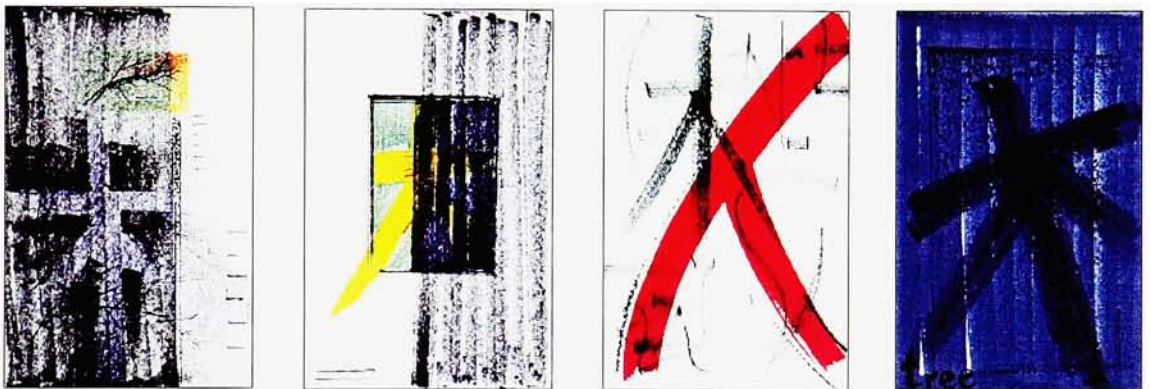
C. Calligraphy as Image



D. Calligraphy as Label



E. Calligraphy as Contrast



F. Calligraphy with English

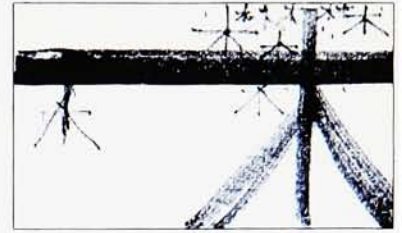
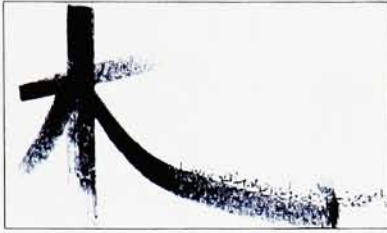


F. Calligraphy with English



Trees as Protection

A. Calligraphy only



B. Calligraphy follows Image



C. Calligraphy as Image

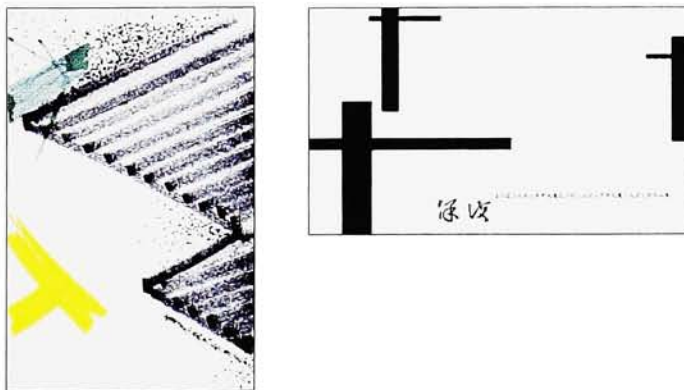


Trees as Protection

D. Calligraphy as Label

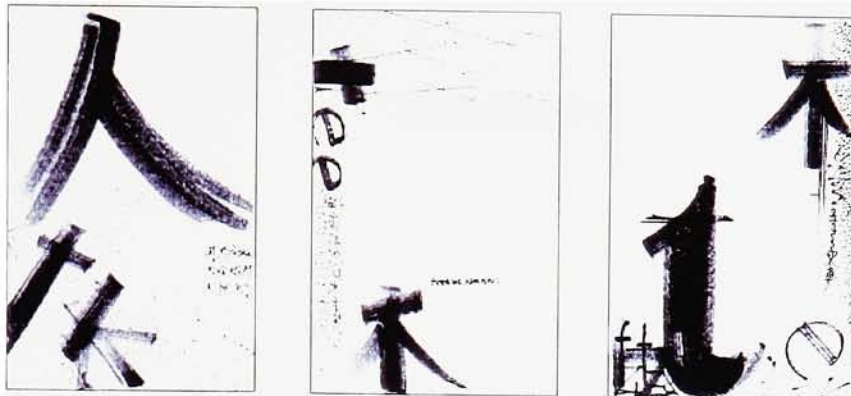


E. Calligraphy as Contrast



Trees as Protection continued

F. Calligraphy with English



Appendix E

Examples of the New Digital Font based on Wang's Calligraphy

木

tree

山

mountain

人

person

天

sky

林

forest

風

wind

心

mind

氣

air

自

self

然

nature

護

protect

保

keep

文

literature

明

bright

根

root

物

object

清

clean

靜

peaceful

永

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exist

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flow

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峻

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曠

reflect

湍

torrent

茂

flushing

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exclamation

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world

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Appendix F

Matrix for Selection of Six Poster Designs

	Calligraphy only	Calligraphy with Image				
		Calligraphy follows Image	Calligraphy as Image	Calligraphy as Label	Calligraphy as Contrast	Calligraphy with English
Environment			*		*	
Protection		*		*		
Civilization	*					*

* Greenpeace Poster

Appendix G

Poster 1: Calligraphy Only



Trees as an Influence on Civilization

Poster 2: Calligraphy Follows Image



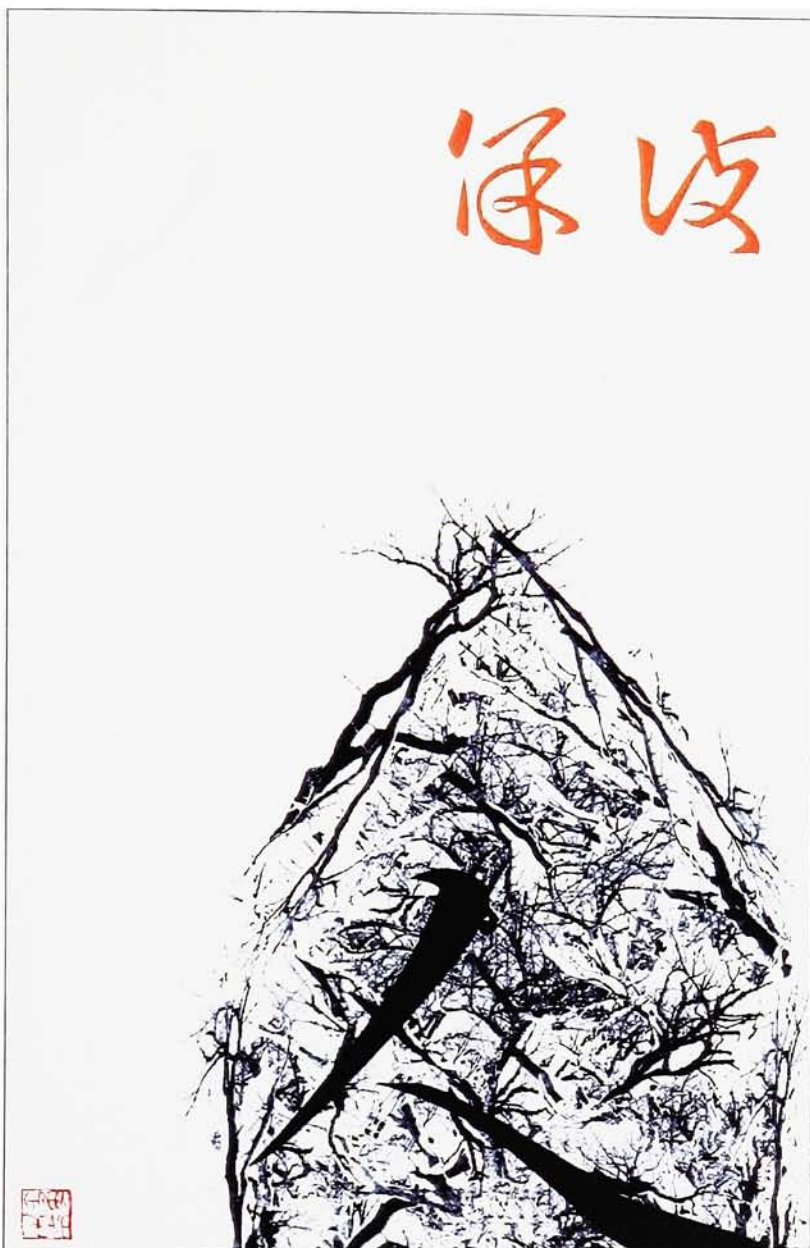
Trees as Protection

Poster 3: Calligraphy with Image



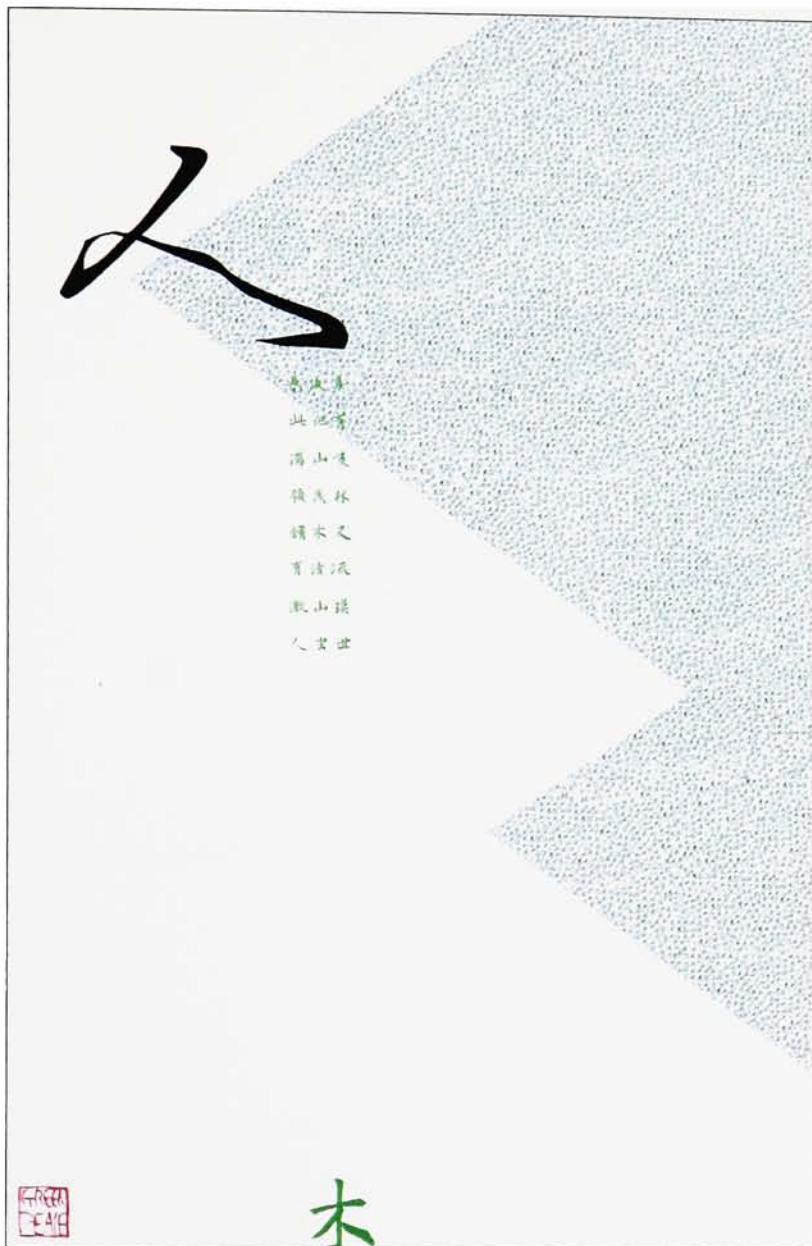
Trees as Components of a Healthy Environment

Poster 4: Calligraphy as Label



Trees as Protection

Poster 5: Calligraphy as Contrast



Tree as Components of Healthy a Environment

Poster 6: Calligraphy with English



Trees as an Influence on Civilization

Appendix H

Feedback from Professor Roger Remington

- a. Generally the design applications are visually strong.
- b. How will you reformat the thesis exhibition into your thesis documentation?
You should develop an appropriate, reduced presentation.
- c. How can you include the examples of ideation in your thesis document?
You should sort the strong examples out of the existing ones.

Feedback from Professor Bruce Ian Meader

Introduction Poster:

- a. Generally highly clear in introduction.
- b. The space between line and type is a little bit narrow. It is hard to read.
- c. The comparison between original Wang's calligraphy and the new digital calligraphic font is highly effective.
- d. Hypothesizing Greenpeace as a host of this project is effective.
- e. Some minute printing problems are found.

Design Application:

- a. Generally the design applications are visually strong.
- b. The applications for "Calligraphy as label" communicate the most effectively.
- c. The applications for "Calligraphy with English" would require more detailed information.
- e. Each label require more applications details.

Appendix I

Evaluation Form



A
Trees as an Influence on Civilization



B
Trees as Protection



C
Trees as Components of a Healthy Environment



D
Trees as Protection



E
Trees as components of a Healthy Environment



F
Trees as an Influence on Civilization

1. Can you understand the intended messages in each of these posters?

If you have difficulty understanding a message on a particular poster, please explain here:

A	Yes	No
B	Yes	No
C	Yes	No
D	Yes	No
E	Yes	No
F	Yes	No

2. Which do you feel are the stronger compositions among these six posters?

please explain:

A B C D E F

3. Which do you feel are the weaker compositions among these six posters?

please explain why you feel they are weaker:

A B C D E F

4. Do the colors in each poster strongly support each intended message?

why or why not:

Yes No

5. Does the new calligraphic font successfully reflect the essence of traditional Chinese calligraphy—specifically, Wang's calligraphy?

please explain:

Yes No

6. Do you think there is added value in having calligraphy included in each of these poster layouts (or would other non-calligraphy typefaces be just as suitable)?

please explain:

Yes No

Thank you!

Summary of Evaluations

Questions	Answers							Comments
		A	B	C	D	E	F	
1. Can you understand the intended messages in each of these posters?	Yes	16	16	18	20	9	7	Poster A, B, C, D: generally clear message Poster E: hard to understand in sentence Poster F: needs more words or sentences to understand of message
	No	3	4	2		9	11	
2. Which do you feel are the stronger compositions among these six posters?		A	B	C	D	E	F	Poster A, C, D: very strong composition
		5	2	4	7	1	1	
3. Which do you feel are the weaker compositions among these six posters?		A	B	C	D	E	F	Poster F: needs more contrast in type between English letter and Chinese calligraphy (size & position)
		1	2			6	5	
4. Do the colors in each poster strongly support each intended message?	Yes	14						Poster B: type needs to be colorized Poster C: needs more bright color Poster D: needs more pure Green or Blue color Poster F: make more contrasty color between English letters and Chinese calligraphy
	No	5						
5. Does the new calligraphic font successfully reflect the essence of traditional Chinese calligraphy- specifically, Wang's calligraphy?	Yes	19						
	No							
6. Do you think there is added value in having calligraphy included in each of these poster layouts (or would other non-calligraphy typefaces be just as suitable)?	Yes	18						
	No							