

Comparison of Chinese Calligraphy and Ink Painting Brushes with Western Water-media Painting Brushes

(Study of the Advantage of Combining Chinese Calligraphy and Ink Brushworks with Western Water-media Painting Brushworks)

Nanyang Technological University (*Ng Woon Lam*)

School of Art, Design and Media
Nanyang Technological University
Singapore
ngwoonlam@ntu.edu.sg

Abstract— *In the history of Chinese ink painting and Western water-media painting, there are a list of brushes developed over the years. The tools developed are highly related to the skill requirements, techniques developed and the chosen painting surfaces. In this project, a comparison of Chinese and Western brushworks are compared. Through the comparison of Chinese calligraphy and ink painting brushworks and Western water-media painting brushworks and their tools, the advantages of both brushwork application processes can be combined with minor sacrifice of their original capacity. After knowing the strength and weakness of these two categories of brushwork application, the results can be introduced to current commercial applications including animation, digital painting and digital image processing.*

Keywords— *Chinese Calligraphy, Ink Painting, Water-media, Watercolor, Brushworks*

I. INTRODUCTION

Chinese calligraphy and ink painting use similar brushes because many Chinese ink painting skill, techniques and materials are derived from Chinese calligraphy. These brushes are generally made by two main groups of animal hair, namely weasel hair, from its tail, and goat hair. Weasel hair is comparatively harder than goat hair. In order to achieve intermediate hardness, there are blended types too. In Chinese ink painting, the overall hardness of brushes like the two main groups above, are generally regarded as soft. Otherwise, the requirement to form fluid turning and twisting would not be possible through the use of the wrist.

In Western painting, taking watercolor as an example, the watercolor paper is very tough. It allows application of thick paint and the painter is still able to push the paint around. This pushing of thick paint approach is adapted from oil painting technique. If it were to be used in Chinese ink painting, the rice paper would have been torn by this rigorous process.

II. COMPARISON OF BRUSHES

A. Chinese Calligraphy Brushes

Chinese calligraphy brushes work well on rice paper surface, relying on the high absorption character of rice paper. It easily achieves fluidity of brushwork with good wrist pressure control coupling with the fast absorption character of rice paper. However, it cannot move concentrated paint because its very soft hair used to make the brushes. In addition, fraction generated by thick paint and brush movement may tear the of the thin rice paper surface.

If it is used on less absorbent paper surface, like watercolor paper, for example, the watercolor paper cannot absorb the paint ‘hiding’ in the brush. Therefore, in this case, it works well only for large area wash or low to middle paint concentrations for non-absorbent paper surface.

B. Natural Hair Watercolor Brushes

Watercolor brushes [Kolinsky, hog, or natural animal hair brushes] are able to hold on to a lot of both pigment and water, for release later on watercolor paper surface. They are regarded as medium hardness [slightly harder than weasel hair Chinese brushes]. Their capability in creating various textures could be slightly weaker than Chinese ink brushes due to their hardness. The harder the brush, the stiffer it is to allow flexible execution of brushwork.

C. Synthetic Brushes

Nylon or other synthetic brushes were invented to overcome the stringent requirement of hand feel and hand skills to achieve controlled brushworks in Western painting. They are commonly used in water-media painting today. They wield the hardest brush hair as compared to all the rest of watercolor brushes. They are able to push concentrated paint

just like oil painting bristle brushes. However, due to their hardness, their fluidity is very much compromised. Therefore, I prefer to use them for smaller areas and adjustment of edge sharpness. Over dependence on synthetic brushes can cause overly hard edges making the whole painting process look like a filling-in-the-blank exercise. The result is a complete loss of image fluidity.

III. COMPARISON OF CHINESE AND WESTERN BRUSHWORK

A. Chinese Calligraphy Brushwork

Chinese calligraphy brushwork emphasizes ‘Jin’ [劲, Strength], the exertion of force within the structure of brush application, which is called the Gu Fa [骨法, bone structure].

‘Bone’¹ in Chinese calligraphy: The firm structure of each type of brushwork like horizontal or vertical lines, side strokes, or points, all of which require a certain controlled approach in execution in order to maintain the feel of ‘Jin’. In Tang dynasty, Zhang Yan Yan’s write-up entitled, ‘Historical Painting Record’ or Li Tai Ge Hua Ji [历代各画记] states that: “Depicting object likeness is through depicting its form; while the feeling comes mainly from the use of brushwork. Therefore, to learn painting (regarding Chinese ink painting here), one must first master calligraphy.” To interpret his concept, when the brushwork is applied, the inner structure of the perceived object needs to be understood thereby the decisive brushwork could depict the inner spirit of the subject matter. Here the inner structure may not mean very scientific building blocks of the object. It just refers to the viewer’s understanding of how the object behaves or feels like. For example, a tree grows from larger branches to smaller branches and gradually behaves softer towards the end of smaller branches.

Therefore ‘bone’ structure means the depiction of a combination of the size, shape and internal spirit of a perceived subject matter. Contemporary painting in Asia with the influence of both the East and the West is not restricted to the tight rules of calligraphy. However, the concept of simplification is evident. When we introduce this concept of simplification, we may further induce a strong delusive quality into the presented images. It enhances the visual results while being able to reduce the workmanship.

Based on the fundamentals of Chinese brushwork, the application of ‘Zhong Feng’¹ [中锋, centralized brushwork: Chinese calligraphy requires the brush to be held rather vertical so that the brush tip pressure can be felt easily. This allows better control on the thickness and shapes executed] emphasizes the hiding of sharpness by controlling the pressure at the tip of the brush firmly. It could be likened to ‘using a piece of heavy metal weight to draw firm lines on sand’. It requires the starting position to be first in the reverse direction before moving towards the intended direction. For example,

before moving down, the brush will be moved up slightly; and before moving left, the brush will be moved to the right slightly. This allows smooth and fluid execution of brushworks.

With the choice of generally softer brushes, coupling with rice paper absorbent character and good wrist control through training of ‘Zhong Fang’ application, Chinese ink painter has the advantage of creating both ink wash and rough textures within one brushwork easily. It is done by varying the combination of brush speed, ink or watercolor concentration and wrist pressure control. This flexibility forms the heart of visual simplification of Chinese ink painting.

B. Western Water-media Painting Brushwork

In Western brushwork concepts, a painter has the full freedom to invent one’s method of brush application.

The brushworks in water-media painting regardless of their approaches can be grouped into two major categories:

- [a] Glazing: [The process of applying sheer layers of pure pigment, one over the other, to produce a desired color effect². This layering process can achieve different paint or opacity; from transparent, semi-opaque to opaque]
- [b] Scumbling [The process of applying broken brush strokes to allow some optical mixture of paint layers between the lower layers and the top layer.]

The two results above depend largely on the combination of three major factors, namely the friction between brush and painting surface, water content in the brush and pigment concentration in the brush. A brush loaded with more water and with softer hair coupling with smoother painting surface will tend towards forming evenly filled flat brushwork, the glazing. On the contrary, drier brush generates more frictional force to the painting surface will form scumbling results.

In Chinese ink painting, there are equivalences to these two categories above. Chinese ink painting depends on the absorbing nature of rice paper to create washes in multiple times which is quite similar to glazing. For rough textures like scumbling, with the quick absorbent nature of rice paper, when an ink brush has less water in it, the paper can absorb the water in the brush rather quickly, creating frictional force to the brush moving. That helps in forming rough textures readily.

IV. COMBINING THE STRENGTHS OF CHINESE CALLIGRAPHY / INK BRUSHWORKS AND WESTERN WATER-MEDIA BRUSHWORKS.

To solely take advantage of Chinese calligraphy ink painting brushwork, it requires a lot of control of the painter that in turn requires years of regular practice. Practically, this is less feasible to a most painters unless one has been

practicing Chinese calligraphy skills or painting brushworks from very young age.

Therefore, in order to take advantage of both Chinese calligraphy and ink painting brushwork and Western water-media painting brushwork, there are multiple factors we have to consider. These factors are brush hardness, paint concentration [combination of water content and pigment content], speed of application, paper surface roughness and paper absorbent character.

Paper roughness and absorbent and generally less complex factors that can be controlled by painters readily. Rougher or more absorbent paper surface generally creates rough textures. However, the other three factors are brush speed, hardness and paint concentration. These factors are to be linked closely.

Table below shows the general combined results of these three factors.

TABLE I. BRUSH MOVEMENT AND TEXTURES

Brush Movement and Textures			
Paint Concentration		Water Content in Brush	
Dilute	Brush Types	Low	High
	Chinese Calligraphy Brush	Rough Textures / medium brushwork control	Smooth Texture / easy brushwork control
	Water-media Natural Hair Brush	Rough Textures / easy brushwork control	Smooth Texture / easy brushwork control
	Synthetic Brush	Rough Textures / easy brushwork control	Smooth Textures / easy brushwork control
Concentrated	Chinese Calligraphy Brushes	Rough Textures / difficult brushwork control	Minor Rough Texture depending on friction of paper, brushwork control is between medium to difficult
	Water-media Natural Hair Brushes	Rough Textures / medium brushwork control	Smooth Texture / medium brushwork control
	Synthetic Brushes	Rough Textures / easy brushwork control	Smooth Textures / easy brushwork control

TABLE II. FLEXIBILITY OF BRUSHES

Flexibility of Brushes	
Brush Types	Flexibility
Chinese Calligraphy Brushes	High
Water-media Natural Hair Brushes	Medium
Synthetic Brushes	Low

V. CONCLUSION

A. Working Approach to benefit from Advantages of Chinese and Western Brushworks

Western application of brushwork emphasizes on final visual results. It allows complete flexibility in applying the brushworks³. However, in Chinese ink painting, the calligraphy requirement is very stringent. The simplification process also emphasizes the control of calligraphy brushwork to depict ‘Jin’. The fragile character of rice paper makes this working process even more demanding.

In order to take advantage of both types of brushworks, a Chinese ink painting can be compromised slightly to allow more layers of application like glazing and scumbling in Western brushwork process. Therefore, the choice of paper has to be different. The thickness and toughness of paper have to be better than regular rice paper. Generally, $[300\text{g/m}^2]$ ⁴ regular watercolor paper will be thick and tough enough to allow multiple layers of glazing and scumbling process.

With the slower absorption process of thicker and tougher paper like watercolor paper, the brushwork can be done separately and be combined for a final visual result without very demanding hand pressure control like Chinese calligraphy like rice paper surface. Therefore the speed of brushwork execution can be reduced slightly to improve the ease of controlling the brushworks. Hence, the visual result can still retain the beauty of Chinese calligraphy simplicity.

One additional advantage is the application concentration of paint can have a wider range with thicker and tougher paper surface. With wider variation of paint concentration coupling with slow brushwork process, the brushwork can be varied further through change of concentrations of paint or ink.

REFERENCES

- [1] Ye Shang Qing, “The Documentation of Art Concepts by Pan Tian Shou”, 《潘天寿论画笔录》, Zhe Jiang United Enterprise, Zhe Jiang People’s Art Publisher, ISBN: 9-787-534-035-203, pp.129, July, 2013
- [2] Jeanne Dobie, AWS, “Making Color Sing, Practical Lessons in Colors and Design”, Watson Guptill Publications, ISBN: 9-780-823-029-921, pp.58, 2004
- [3] Ng Woon Lam and Don Low Chee Mun, “Perception and Delusion”, ISBN: 9-789-810-905-323, pp.18, 2014
- [4] http://en.wikipedia.org/wiki/Paper_density: In the metric system, the mass per unit area of all types of paper and paperboard is expressed in terms of grams per square meter (g/m²). This quantity is commonly

called grammage in both English and French (ISO 536), though printers in most English-speaking countries still refer to the "weight" of paper.

Here a sheet of imperial size watercolor paper of 0.56m X 0.76m weights $[0.56 \times 0.76] \times 300\text{g/m}^2 = 127.68\text{g}$