

# A Study on Characteristic of Calligraphy Characters Part 3 Case of the Writing Paper with Calligraphy Letter Works

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**Abstract.** The technique to evaluate the characteristic of the shape of the writing brush style quantitatively is proposed in this study. This study is classified into three parts. Part3 treats the writing paper with calligraphy letter works. 8 kinds of calligraphy letter works from songbook “Hyaku ninn isshu” are used in the part3 of this study.

**Keywords:** Calligraphy character works · Stability index · Songbook of hyaku ninn isshu

## 1 Introduction

### 1.1 Characteristic of Calligraphy Letter Works

In Japan, the history of the calligraphy to express a kanji and a hiragana letter with a writing brush style is very old. “Kaisho” is form not to transform. “Gyosho” is the form transformed a little than it. “Sousho” is the form transformed more.

The Japanese improved a kanji to assume China the origin and devised a hiragana letter originally. The hiragana letter has thin, long and smooth form. In addition, the hiragana has coupling form to lead to the next character. The “Hiragana” letter lets Japanese heart feel at ease and beauty.

Writing brush works is expressed with Characters by writing brush on paper. The hiragana works has a characteristic bigger than the kanji works. The kanji characters form a line orderly in the kanji work. On the other hand, the hiragana characters form a line irregularly in the hiragana works.

The characteristic of hiragana is shown as follows,

- ① Character is continued
- ② Characters form a line irregularly
- ③ “Sumi” is light and dark
- ④ Blank is the important element of the work.

## 1.2 The Songbook: Hyaku Ninn Isshu

8 kinds of calligraphy letter works used in this study is chosen among “Hyaku ninn isshu”. “Hyaku ninn isshu” is the songbook which “Teika Hujihara” (1162 ~ 1241) chose the song of 100 poets from the 7<sup>th</sup> century to the 13<sup>th</sup> century by one poem each and gathered. 8 calligraphy letter works are shown from Figs. 1, 2, 3 and 4. The songs translated into English were quoted from the site of fusau.com, as shown as follows:

1-h Many years ago in the ancient capital of Nara,  
Cherry blossoms thrived in eight-layered petals.  
Today in the Palace with its nine royal portals,  
Cherish them we do in this noble spring gala.

2-h At Shinobu, Michinoku clothes are dyed so randomly,  
Only God knows what patterns come out and how.  
Who, then, put me off my usual balance of emotion?  
It's you I hold so dear, I'm dying to be dyed in your colors.

3-h Here I live, dear old friends, near deer's abodes southeast of Kyoto.  
Name's Ujiyama I hear people call worthy hiding place of world-weary men.

4-h What a cruel fate it is for me to see you still.  
Now that you're out of reach, I wish you were out of sight.  
I'd hate to hate your face, I'd hate to face my fate.

5-h Of course you know Ibukiyama?  
Famed source of moxa herbs:  
Curing bodies by burning aching spots.  
Of course you don't know my heart  
Burning in stealth thinking about you.

6-h White as frost first down on the wintry ground  
Mocking my bewildered eyes unable to say which is which,  
Chrysanth, are you inviting me, “Pick me up, if you can”?

7-h Wind-induced snow of flowers timelessly white in spring  
Might be pleasant to see, but well, whiter still is my hair  
Reduced in volume with the passage of time,  
No spring ever visits me again.

8-h Premature name as one in love  
Stood out in the way of love to be won.  
What fun is there in having it known  
To anyone else than you I've held so secretly dear?

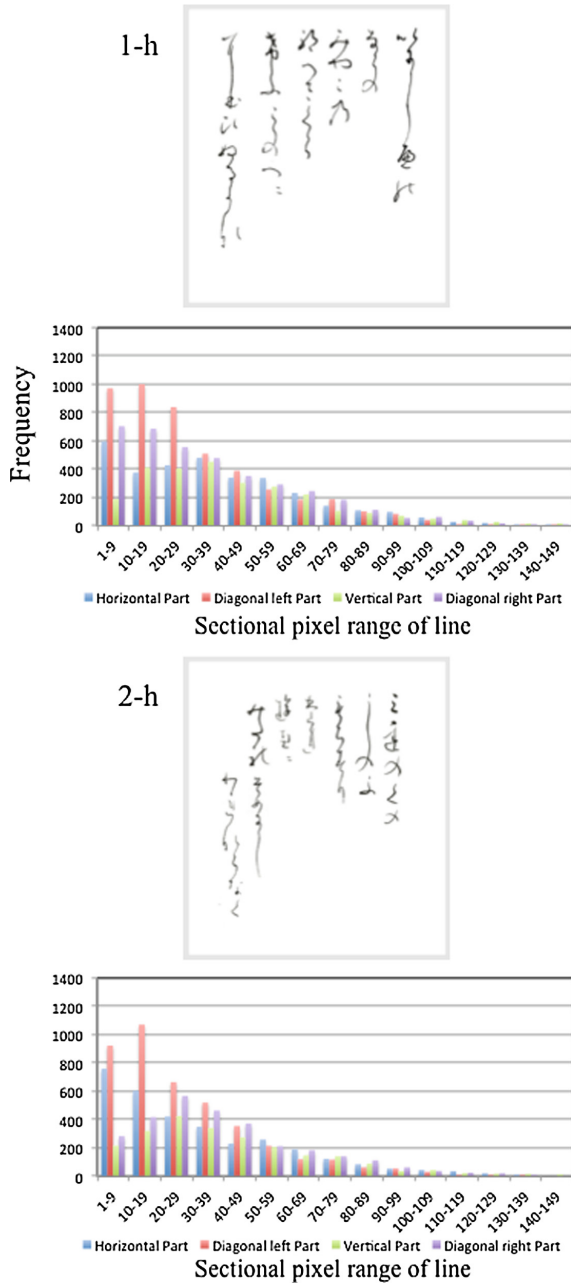


Fig. 1. The hiragana works of h-1 and h-2

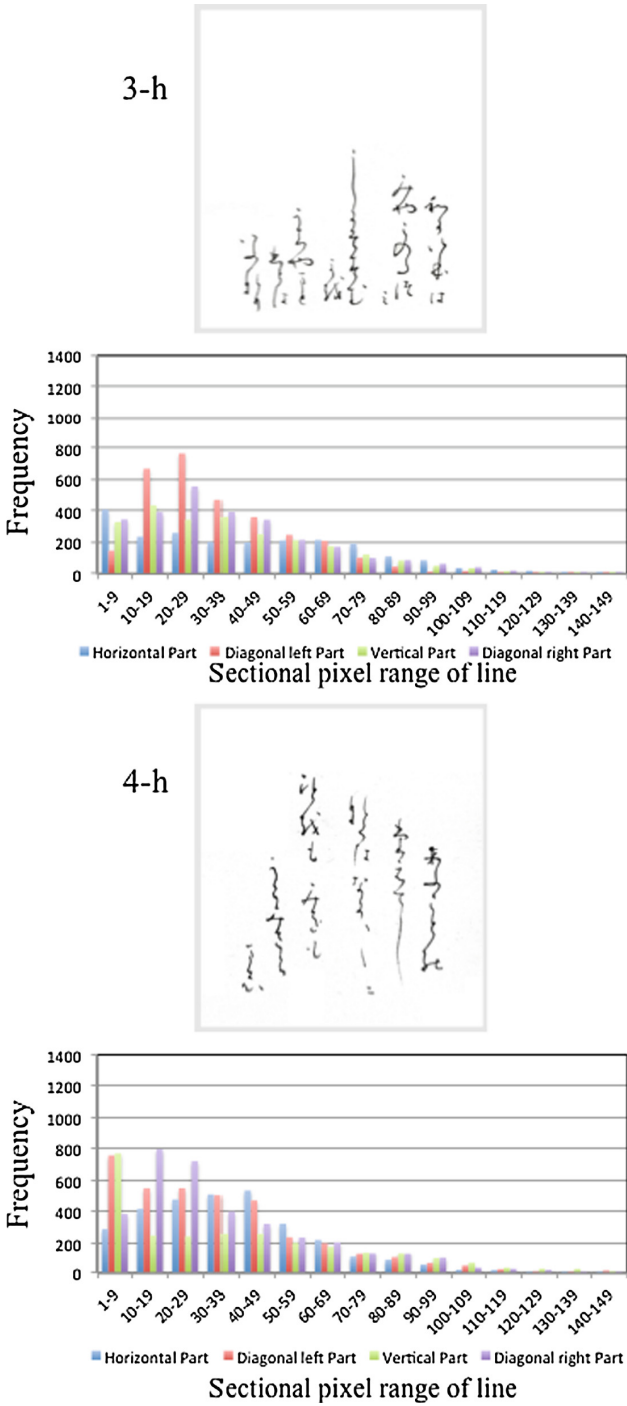
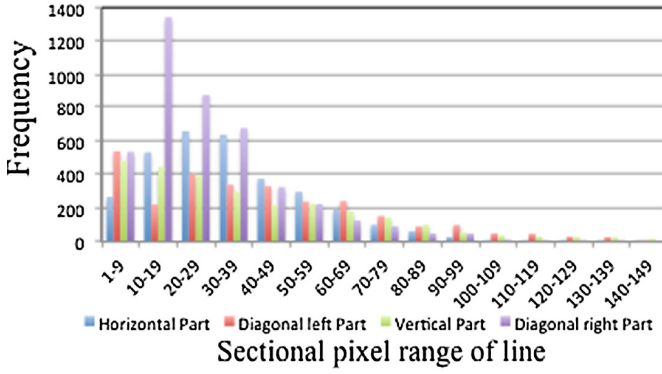
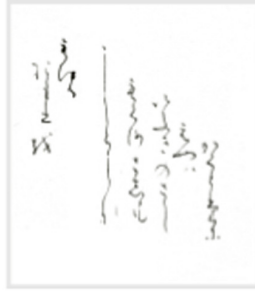


Fig. 2. The hiragana works of h-3 and h-4

5-h



6-h

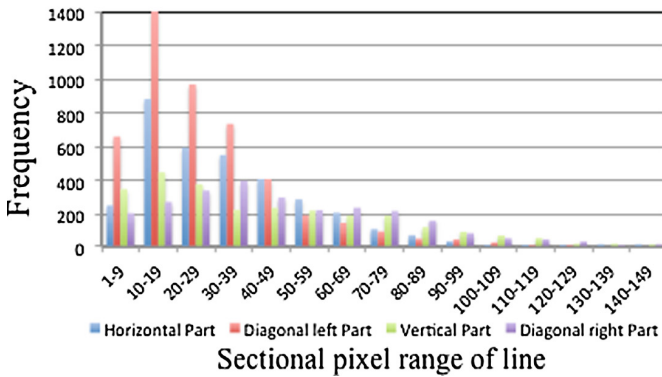


Fig. 3. The hiragana works of h-5 and h-6

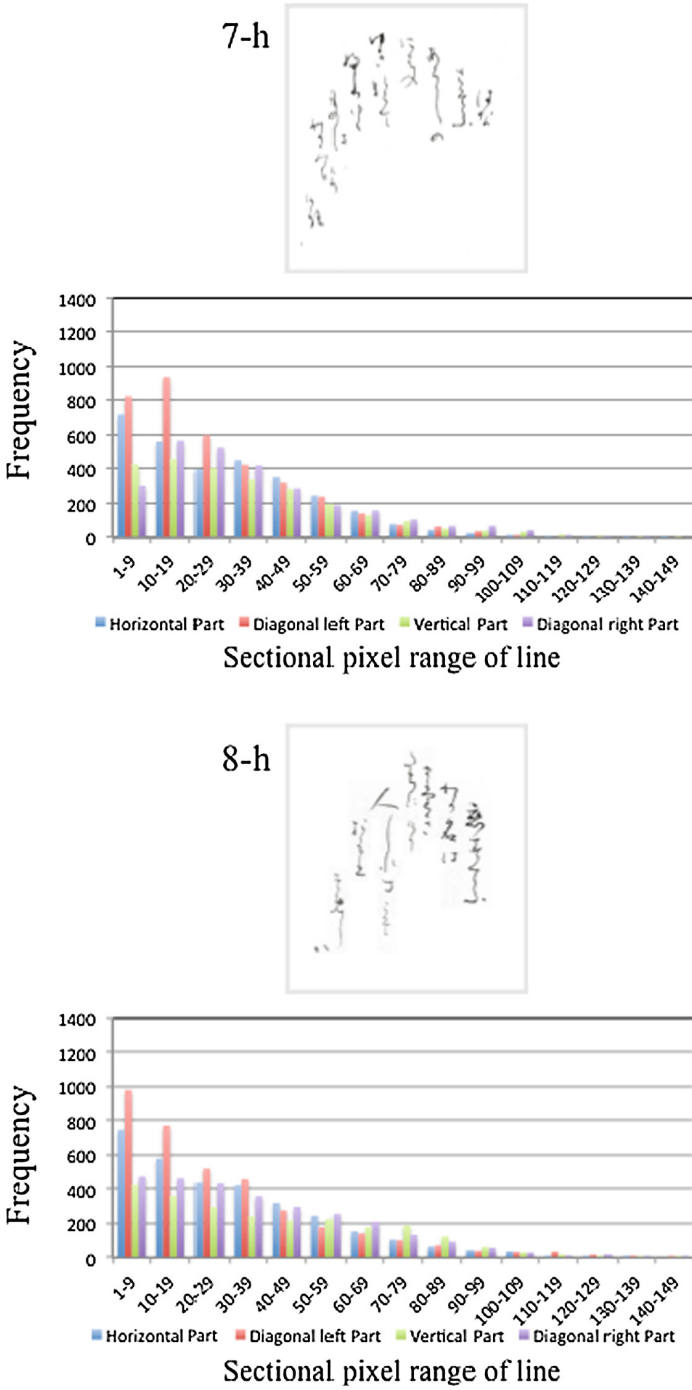


Fig. 4. The hiragana works of h-7 and h-8

## 2 The Proposed Evaluation Method

The blank part on paper is important in the hiragana works. Therefore, this proposed evaluation method is applied to the whole including blank. The hiragana works are classified in 8 kinds, as shown from Figs. 1, 2, 3 and 4. The characters are written in the slanted line part.

New software program is proposed with “Method-2” in order to obtain the degree of overall instability is of hiragana works. Full situation of “sumi” is examined by “sumi” ratio in block cell among horizontal part, diagonal left part, vertical part and diagonal right part.

- (1) Written paper is regarded as two dimensional plane and is divided into many square elements.
- (2) The density of “sumi” is digitized in numerical value from 1 to 256 and is substituted for each element as the property value of the element.
- (3) The center of figure is obtained.
- (4) The degree of instability is of hiragana work is calculated. The degree of instability is shown as follows.
- (5) Calligraphy works is evaluated by using Is.

## 3 Result and Discussion

As showed from Figs. 1, 2, 3 and 4, 8 kinds of Hiragana works distributions histogram of horizontal part, diagonal left part, vertical part and diagonal right part were illustrated respectively. The final stability index of those 8 hiragana works was plotted in Fig. 5. It is worthy to note that 3-h and 4-h have the largest stability index than other works, but 7-h displayed the smallest one. According to the original work writing style and overall feeling, large numbers of hiragana characters wrote in 3-h and 4-h were located in center or downside of work paper, however, characters in 7-h showed a bent moon shape upside. Referred to 5-h and 6 h, it is clearly to find a symmetric group

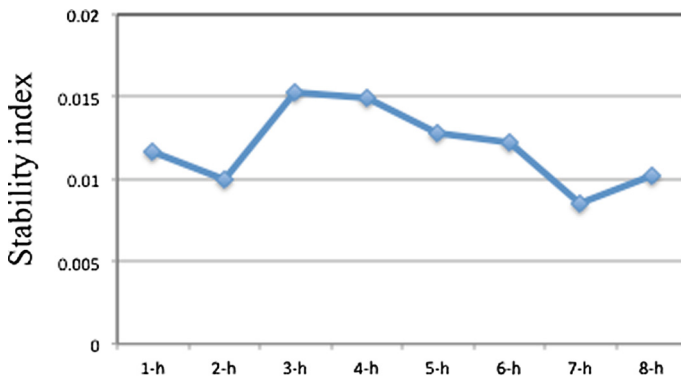


Fig. 5. The stability index from 1-h to 8-h

based on work's writing style, which one is written from right down side to left up side and the other one is written from right up side to left down side. Corresponding stability index of 5-h and 6 h showed the very similar value. As a conclusion, it is demonstrated that the whole hiragana work stability index was affected by hiragana characters arrangement in work paper but not writing flow or shape style, in which more characters located in center or center down side displayed more stable performance.

## **4 Conclusions**

In this paper, hiragana works with 8 kinds of various writing style and characters location arrangement were characterized by horizontal, diagonal left, vertical and diagonal right sumi ratio analysis. Finally, 8 kinds of hiragana works' stability were calculated and compared. It was clarified that work with larger number characters placed in down or center down side displayed more stable performance. In a word, writing style is one important factor for whole work paper beauty evaluation, but how to arrange the characters' location with blank area is more important for whole work's stability, visual comfort and aesthetic feeling.

## **Reference**

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