

# A Brief Discussion of the Writing Characteristics in the Transition from Seal Script to Clerical Script

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**Abstract:** In this paper, we analyze the process of seal script clerical transformation through time, and summarize four characteristics of the process of seal script clerical transformation: turning curves into straightness; turning turns into folds, changing horizontal and vertical strokes, changing the direction of strokes, and the creation of "wave limb".

**Keywords:** Bamboo slips handwriting, Seal script transformation, Writing.

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## 1. Introduction

In the past, most of the explanations of the process and changes from seal script to official script were based on static comparative analysis of small seal script and official script after the official script was established, and less attention was paid to the influence of daily writing applications on the evolution of the script. It is obvious that it is problematic to study the system only by using a common time and static analysis[1]. Therefore, the scientific study of the structure of Chinese characters should be based on dynamic and ephemeral analysis.

Therefore, for the study of seal script, the textual materials selected should be based on the ink writing materials of the Qin and Western Han dynasties, which is only the "genesis" of the process of seal script change. The ink writing of Qin jian is only the "genesis" of the clerical transformation of the seal script, while the writing of Western Han dynasty is mostly in the "completion" of the clerical transformation of the seal script. The writing characteristics of the process of seal script clerical transformation embodied in these ink writing materials are mainly manifested in the following four aspects:

## 2. Turning Curves Into Straightness and Turning Into Folds

The "curve to straight" refers to the process of changing the original character curves, arcs to straight lines, "turn to fold" refers to the original character to make the turn of the way of writing, changed to fold the pen, that is, two straight lines to replace an arc of change. The line is not determined by the physiology of human writing, but by the appearance of things, the outline; it does not interfere with whether people write smoothly, freely, only to write the word and the objective object match. This kind of word is relatively free in the organization of the structure, simple and traditional freedom, freedom of orientation, and freedom of direction. The older the word is the closer it is to the figure, the older it is the more it is influenced by the object. The evolution from ancient to present-day writing is a transition from copying lines to symbolic strokes, which are relatively simple[2].

The power that runs through the whole process of seal script transformation is fundamentally twofold: the regulation of the character form by the object, and the transformation of

the character form by the writing. It is a conservative force that is maintained by custom and protected by tradition, while it is a transformative force that is in line with the physiology of writing, constantly mutating lines that are not suitable for writing. It is a force of transformation that constantly mutates lines that are not suitable for writing and changes the face of the characters by pushing out new ideas. This force is supported by the need for daily application and the demand for quick and simple writing. From the beginning of the writing, these two forces are complementary to each other, which together constitute the backbone of the development of the glyphs. From the available excavated materials, it can be seen that the change in the official script began during the Warring States period, when the seal script gradually dissolved and evolved into the official script system. The rounded curves of the seal script strokes evolved into the squared strokes, and the magnitude of changes in thickness began to increase.

The evolution of seal script is not just a single path of "simplification", but also "flourishing", as exemplified by the evolution of decorative calligraphy, such as the "bird and bug script". The writing feature of "turning curves into straightness and turns into folds" belongs to the path of "simplification" and follows a regular principle, namely, the "principle of straightness". The principle of "straightness while it lasts" refers to the pursuit of writing quickly and shortening the lines of the brush by straightening the folds or arcs, which is actually a reflection of the physiological habits of writing, while maintaining the distinction of the characters. The most fundamental reason for the "straightening of curves and folding of turns" is the simplification of the writing style of "speed and simplicity" in the process of seal script.

## 3. Change of Horizontal and Vertical Strokes

The basic elements of Chinese writing gradually changed from lines to strokes, i.e., the abstract symbols were used to replace the imitation lines that traced the outline of the objects, and the abstract, symbolic strokes could be varied in thickness and were more flexible in writing. The writing of seal script requires uniformity in the shape of the brush, which makes it more difficult to write. The long rounded lines of the seal script, which are difficult to write, were divided into short lines, and the rounded turns were changed into straight folds.

The overall shape of the characters changed from long to wide and flat, and the structure was relatively free and could be changed flexibly according to the length of the characters.




In the section on the internal balance of Chinese character structure in "The structure of Chinese characters and its changes", Donghan Liang says, "The more ancient the characters, the more pictorial they are, so they are relatively free in structure and form. The length, density, thickness and part of the strokes are governed by the other strokes that make up the character.[3]" Many of the clerical characters in the Dunhuang Han script are written with a gradual increase in the number of starting strokes and closing strokes, and a shift from vertical convergence to horizontal expansion of the character's body. All these changes indicate that the Official Script has been separated from the Seal Script parent. From the writing of the clerical script in the Dunhuang Han scrolls, it can be seen that the clerical script gradually developed into the more mature Han script during the Zhaoxiao and Xuan periods of the Western Han Dynasty, during which it

underwent a shift from the early ancient clerical script, which was mainly vertical, to the eight-point script, which had obvious limbs and was more horizontal. Although it cannot be arbitrarily assumed that the character structure evolved from longitudinal to horizontal during the process of seal script clerical change, it is certain that the change in the horizontal and vertical stroke (stroke length refers to the length of the stroke) from Qin to Han clerical led to the gradual evolution of the character structure from longitudinal to horizontal, with the horizontal stroke becoming longer and the vertical stroke becoming shorter.

#### 4. Changing the Direction of The Brush Shape

From Qin to Han, the difference in the direction of writing is more intuitive. From the available excavated textual materials, this difference is well reflected in the writing of the Mawangdui Han tomb scrolls (see Table 1).

Table 1. Examples of the illustrations in the Mawangdui Han tomb

Tomb number	M1	M2	M3
plate			
Jane number	39, 42, 147, 192, 312	single Jane of the tomb	66, 88, 231, 244, 339

In order to facilitate the study, we have randomly selected the characters of the M1 and M3 Han tombs for comparative analysis, from 312 bamboo slips of the M1 Han tomb, we randomly selected the slips with the numbers 39, 42, 147, 192 and 312, and from 407 bamboo slips of the M3 Han tomb, we randomly selected the slips with the numbers 66, 88, 231, 244 and 339. The most intuitive manifestation of the difference is the difference in the direction of the horizontal pen shape (the direction of the pen shape refers to the direction of the pen shape, and the direction of the pen shape is the direction

containing the writing dynamics[4].) In the writing of ancient clerical script, the horizontal pen shape is mostly oriented to the lower right side (e.g., the writing of 66, 88, 231, 244, and 339 in Table 1), while in the writing of modern clerical script, the horizontal pen shape is mostly oriented to the upper right side (e.g., the writing of 39, 42, 147, 192, and 312 in Table 4). However, this issue is not hidden, but is the most intuitive writing difference.

## 5. The Emergence of "Wave Limb"

Originally, the term "wave and limb" refers to the wave and limb shape that appears in the horizontal, vertical and oblique stroke shapes in the writing of clerical script, and the thickened stroke at the closing of the stroke shape, also known as wave and limb. It is generally believed that the name "eight points" is derived from the fact that the left- and right-oriented limbs make the character shape of Chinese script show the backward momentum.

As for the motivation of the creation of "eight points", there are mainly the following aspects: Firstly, it is the result of the joint action of various writing characteristics in the process of seal script and clerical transformation, which makes the creation of "eight points" possible, such as the writing of the horizontal stroke shape of Chinese characters in the clerical script of Dunhuang Han, which is based on the premise that "the horizontal stroke shape tends to be longer" and "the stroke shape is placed from right to right". The first is that the horizontal stroke shape of Chinese characters in the clerical script of the Dunhuang Han dynasty is possible only under the premise of "the horizontal stroke shape tends to be longer" and "the stroke shape is placed from the lower right to the upper right. Secondly, the changes in the shape of the brush are closely related to the physiological structure of the hand and the resulting movement habits, and the writing of the "wojer" is more in line with the physiology of the right hand than the "copy lines" of uniform thickness. Third, from the ancient and now the clerical, "tear-off" pen shape is bound to be standardized and beautified, so that it has become the signature pen shape of mature Chinese clerical, the so-called "clerical both into, gradually add tear-off, to increase the ornamentation, is the eight points."

From the aesthetic point of view, the role of the brush shape of limbs in clerical script is just like the "flying eaves and corners" of ancient buildings[5], such as the momentum of flying up. From the practical aspect, the wave limb as the iconic pen shape plays a prominent role in eliminating the ambiguity of the script, achieving the purpose of visual simplification and highlighting the overall visual effect of writing. This is manifested in two aspects: one is to highlight the independence between characters, avoiding the visual confusion caused by the adhesion between the upper and lower characters, resulting in misinterpretation; the other is to highlight the unity of the visual effect, because the repeated appearance of the wave limb stroke shape, while forming a visual similarity. The font itself has a strong stability of pen shape characteristics, and the new pen shape characteristics appear gradually. The frequency of pen shape is directly influenced by the physiology of writing, no matter what kind

of pen shape, the frequency of appearance is high if it conforms to the physiological mechanism of writing, and low if not. This law of writing is particularly evident in the present-day writing stage, which is a phenomenon that needs to be taken seriously in the evolution of fonts. The emergence of new brush shapes and the change of their combination and order indicate the coming of a new typeface. The emergence of the new stroke form, "wojer", marks the emergence of present-day script.

To sum up, we can summarize the four characteristics of writing from seal script to clerical script, i.e., turning curves into straightness, turning turns into folds, changing the horizontal and vertical strokes, changing the direction of the brush shape, and the creation of the "wave limb", to understand the evolution process from seal script to clerical script.

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