

The Li-Variation (隶变/隸變) *libiàn*. When the Ancient Chinese Writing Changed to Modern Chinese Script

Cornelia Schindelin

Abstract. In textbooks of Chinese as a foreign language as well as in other introductions to the Chinese script, the reader is often shown examples of Chinese characters in their modern form along with various historical forms to demonstrate how these characters evolved towards their present shape. When Chinese script is introduced in this way, it remains quite unclear whether the inventory as a whole or the relationships between character components and complete characters underwent any significant changes. However, as is well known at least to Chinese specialists in the field, in the 1st century AD, when the scholar Xu Shen wrote the first semasiological character lexicon of Chinese, changes within the Chinese script were already well under way which did not only alter the graphical appearance of Chinese characters but would eventually change the relationships among characters and the components contained in them. These changes are described and categorized in the present paper which aims at making this historical phenomenon better known to Western specialists in the field of graphemics.

1. Preliminaries

The aim of this paper is to better acquaint Western specialists in the field of graphemics with a development that took place in the Chinese script roughly two thousand years ago. This development is relevant because it comprises the evolution of the ancient Chinese script into the modern script people write today in China as well as in other parts of the sinophone world.

For the sake of brevity, a few presuppositions need to be made. The author shall assume that her readers basically understand how the modern Chinese script works even though they may not be competent in

Cornelia Schindelin
FTSK, Johannes Gutenberg-Universität Mainz
An der Hochschule 2 (Postfach 1150)
76711 Gernersheim
Germany
E-mail: schinc@uni-mainz.de

Y. Haralambous (Ed.), *Graphemics in the 21st Century. Brest, June 13-15, 2018. Proceedings Grapholinguistics and Its Applications* (ISSN: 2534-5192), Vol. 1.
Fluxus Editions, Brest, 2019, p. 227-243. <https://doi.org/10.36824/2018-graf-schi>
ISBN: 978-2-9570549-0-9, e-ISBN: 978-2-9570549-1-6

reading it. Therefore, I shall take for granted that no further proof is necessary to show that Chinese characters are *not* an ideographic script. The Chinese writing system is a system whose symbols are in a certain way connected to the language they were constructed to record, and this connection is in the majority of characters phonetically motivated. The late John DeFrancis suggested to call the Chinese script a “morphosyllabic writing system” (DeFrancis, 1984, p. 88) to reflect the fact that in texts most characters (i.e., tokens) represent one morpheme corresponding to one syllable when read out loud. In dictionaries, of course, one and the same character (i.e., type) may be listed as a representative of potentially various meanings and even various corresponding syllables. The Chinese scholar Qiu Xigui, a grandseigneur of Chinese graphemics, insisted that the label attached to the Chinese writing system reflect the fact that the vast majority of characters are made up of components which serve certain purposes. His suggestion is to call it a “semanto-phonetic script” (Qiu, 2000, p. 13–28), in Chinese: 意符音符文字 *yìfú-yīnfú wénzì*, cf. Qiu (1988, p. 10–18).

Most Chinese characters belong to the category of signific-phonetic compounds¹, that is to say, they contain a signific component which gives a (rough) hint at the (original?) “meaning” of the character, while the other component gives a more or less useful hint at its pronunciation and can therefore be addressed as the phonetic component or, in short, the phonetic. These components may themselves be complex, and they may be able to “act” as complete characters themselves. Then there are other compound characters consisting only of signific components or of signific and purely mnemonic components which in another paper in this volume are called “unmotivated constituents” (Slaměniková, in this volume). And there are also simple characters; these in turn may show up as constituents in compound characters and serve as significs or phonetics, or even as mnemonic or unmotivated components. The ability to function as one or the other is not evenly distributed within the component inventory. A sensibly principled and structured analysis of a modern inventory of nearly 7,000 generally employed (simplified) characters as used in the People’s Republic of China will yield around 500 components (component types) (Bohn, 1998, p. 10–14). Fu Yonghe analyzed a larger inventory of 11,834 characters containing current sim-

1. The four—out of six (六书 *liùshū*)—traditional categories generally accepted as having been productive when new characters were needed are: 1. Pictographic characters (象形 *xiàngxíng*), making up about 4 percent of Xu Shen’s inventory; 2. Simple indicative characters (指事 *zhǐshì*), about 1 percent of Xu Shen’s inventory; 3. Compound indicative characters (会意 *huìyì*), about 13 percent of Xu Shen’s inventory; 4. Characters made up of a signific and a phonetic component (形声 *xíngshēng*), called “semantic-phonetic” by DeFrancis and “signific-phonetic” here, about 82 percent of Xu Shen’s inventory. (DeFrancis, 1984, p. 84) Besides DeFrancis (*ibid.*) or its German translation of 2011, Woon (1987) or Feng (1994) may serve as introductions.

plified ones as well as numerous characters which had not undergone simplification in the 1950's and counted 648 different components (Fu, 1993, p. 117).

Although Chinese characters from any age are fascinating to behold, I have refrained from including illustrations of the different scripts in this paper in order not to let it grow too thick. To make up for this, I shall attempt to provide useful search terms which should enable the reader to find relevant photographs and illustrations in the vast vaults of the world-wide web.

2. The Chinese Script before Li-Variation

The change within the character system called here Li-variation has been dubbed “watershed” and “milestone” by Chinese scholars. In order to appreciate this characterization, it is necessary to look at the script that was in use before the Li-variation set in. Considering the number of characters affected, the length of time this process took as well as the complexity of the entire phenomenon, the following remarks can only be extremely sketchy.

In ancient times, that is from the late second millennium to the early first millennium BCE, Chinese diviners wrote on the plastrons (belly side) of tortoise shells and scapula (shoulder bones) of oxen for pyromantic divination.² Later, archives of such “oracle bones” were buried and subsequently forgotten. Paleographic and archaeological investigation started no earlier than 1898 or 1899 when for the first time after several millennia pieces of bone with characters on them came to the attention of Chinese scholars interested in the matter.³

The plastrons and scapula show a script of pictographic origin with various degrees of iconicity. While certain pictographic characters are—because of their iconicity—easier to decipher than others, especially for scholars familiar with the material and spiritual culture of the time, an especially interesting fact to note is that examples for all four main categories of Chinese characters can be found on them, including significant phonetic compounds, even though the proportion of characters of this category among all those characters that have been successfully deciphered is lower than in later periods of history (cf. DeFrancis 1984,

2. Other materials like pottery, stone, jade, horn and so on were also used but less frequently, it seems, cf. Qiu (2000, p. 60).

3. To see examples, do a picture search for “oracle bone inscriptions”. At the time of writing, using the search terms suggested in this paper yielded useful results. For ancient character specimens pay attention to the rubbings among the search results. They are usually taken from ancient artifacts while works of calligraphy on paper are more recent.

p. 84). Phonetic loaning also appears to have been employed in this early period.

Bronze vessels dating from the time of about 1300 BCE to the early first millennium BCE with inscriptions on them were found in addition to oracle bones. They also show the writing of the time. Bronze vessels from later times have been discovered as well, but the characters on them look different already.

Characters to appear on a bronze vessel can be worked into the mold or engraved into the metal surface after casting. Thus, the artisans' procedure to get a written character on a bronze vessel is not quite the same as that of someone who engraves characters on a tortoise plastron or a bone with the help of a pointed tool.⁴

In both cases the material for writing determined the execution of the characters, at least to a certain extent: Casting molds allow for round lines more easily than bony material or cold metal does; round shapes or enclosures in a mold can easily be "filled" and the modulation of lines is also quite easy, while on bone or cold metal it would mean tediously taking more material away, which is why engraved circles and enclosures are usually not "filled" and lines not modulated much. A clay mold can be corrected but if something is etched off a piece of bone or cold metal, it cannot be replaced. Time pressure and ease of execution were not an issue when these solemn pieces were produced. The modern notions of stroke and stroke order had not yet appeared. There is great variety in compound characters as "allographs" for writing the same word or morpheme show diverse arrangements of component parts, variety of relative size of component parts, varying numbers of components and so forth. The orderliness of arrangement of the whole text also varies and does not seem to have been a requirement.

Around the middle of the first millennium BCE, a form of script appeared which is now commonly called "Large (or Great) Seal script". While it can be described as a descendant of both the script found on oracle bones and that used on early bronze vessels, it does display certain characteristics to set it apart: It is written in rows of quite even width, a lot of lines within the characters are rounded to different degrees and even complete circles can be found. Still, a lot of variety remains among allographic versions of compound characters especially concerning the number of components and their spatial arrangement. This script, which was the official script of its time, was still quite tedious to write, too. The development of various economic and socio-cultural factors—among them the fact that the Zhou kingdom was disintegrating and seven smaller kingdoms strove to take its place—exerted a lasting pressure on the Chinese script.⁵

4. Picture search: "Chinese bronze bronzes characters".

5. Picture search: "large seal script bronze vessels".

Among the seven states of the ensuing era, the Warring States period (475–221 BCE), the state of Qin seems to have been a comparatively conservative one. In this state, the Large Seal script was used relatively conscientiously while unearthed texts from the other six states show various degrees of simplification and disintegration of the writing system. As time went on, the state of Qin overwhelmed the other six states one after the other and extended its administrative control over their territories. Whenever such a victory was complete, Qin made sure that in the new territory only its script was employed. By 221 BCE, the state of Qin had successfully overthrown the other six states. The first emperor of the newly unified China aimed at unifying his realm in all relevant aspects, and unification of the script was one of the measures to achieve this, the others applying to track gauge, weights and measures, and coinage. Paleographers, who investigate increasing numbers of datable bamboo slips and silk textiles with writing on them, tell us that Qin's script policy appears to have been quite successful. However, the Large Seal script was still too unwieldy for the demands of a vast empire led with the aid of a well structured bureaucratic administration, and, in fact, archeological excavations have yielded text finds in which the characters show mixed degrees of simplification. A solution to the script problem of the time was offered by high officials who standardized and further simplified the existing Seal script, resulting in what has come to be known as "Small (or Lesser) Seal script". Textbooks intended not just to promulgate knowledge but also to serve as models showing what each character should look like were produced by three high-ranking scholar-officials, and copies of these books were distributed everywhere in the empire.⁶

However, even while these efforts were under way, another development had started and was already gaining momentum.

3. The Li-Variation

This development which goes by the Chinese name 隶变 (trad. 隸變) *libiàn*,⁷ literally "scribes' variation"⁸, actually started sometime in the

6. Of course, readers may also find pictures with the help of the search term combination "lesser small seal script inscriptions," but only tracking the changes between Large Seal and Small Seal character allographs will reveal the actual differences between their forms.

7. This paper owes a lot to Zhao (2009). Other important sources are Qiu (1988; 2000), F. Wang (1989), and He, Hu, and M. Zhang (1995). To maintain readability and since the intended audience is expected to consist of people who are not practiced readers of Chinese, I have refrained from naming sources very often.

8. 隶/隸 *lì*: (of a human being) subject, subordinate, underling, serf, hence: scribe, clerk; 变/變 *biàn*: change, transform(ation). Several renderings of 隶变/隸

Spring-and-Autumn period (770–476 BCE) which owes its name to the title of the annals of one of the seven states which have been preserved and become a classic text.

The evolution of the Chinese script from these beginnings to the “modern” Chinese script took over 600 years and spanned the Warring States period, the Qin era when China was unified, and the Han era up to the break-up of the empire at its end in 220 AD. While the exact beginning may be debatable—since apparently no-one started the process intentionally and we cannot be sure if any of the earliest examples of this script are among the already unearthed specimens—, its end is to be found towards the late years of the Han dynasty when the Li-script 隶书 *lìshū*, which is what the Li-variation resulted in, was gradually replaced by the “regular script” 楷书 *kǎishū*, its elegant successor, which in fact is still used today.⁹ This latter process, however, is beyond the scope of this paper.

The change that later came to be called Li-variation started when people began to employ a kind of quick handwriting for writing down things of lesser official status or for private purposes. Since the official Seal script was slow and tedious to write, they took shortcuts to achieve greater writing speed and economy. The materials commonly used at that time were brushes, ink, and slips of bamboo, a very common material then, or other pieces of wood. Texts on textiles, especially silk weaves, have also been unearthed in graves dating in large part from the Han era (202 BCE–220 AD).

In the course of several centuries, formally slightly different styles of this handwriting style developed which shared many characteristics.¹⁰

變 *liàn* into English may be considered: “scribe’s/scribes” or “clerk’s/clerk’s change/transformation,” “Li-change” or “Li-transformation”. Zhao Pingan, in an article that seems to be a self-translation into English, uses the word “clericalization” (Zhao, 2009, p. 170–196) which might appear peculiar to Western readers. I prefer the renderings “Li-variation” and “Li-shift,” the latter because the phenomenon can be likened to phonological shifts in the sound system of a language. However, to retain closer resemblance to the Chinese term, I shall stick to “Li-variation” here.

All character readings I provide in this article, whether they be Chinese proper names, terms or character examples, will be modern pronunciations notated using the modern transcription system *Hanyu Pinyin*.

9. Search terms: “kai shu regular script”. In the People’s Republic of China 2,236 characters were further simplified in the 1950s into their now current forms. While this reform was dramatic enough for individual characters, it did not effect a deep-going shift within the whole system as the Li-variation had done “naturally” before it. For an example of a modern text, look up a popular online encyclopedia and select the Chinese version of an entry.

10. In fact, the development of the “running script” 行書 *xíngshū* started from Li-script, and it started quite early. “Running script” came about when Li-script characters were written even more hastily which resulted in further simplification by connecting and blurring strokes, in many instances keeping the contours of the character

While the simplifications and shortcuts used at the beginning seem random, the resulting Li-script eventually stabilized graphically and structurally. From a purely calligraphic point of view it is characterized by the fact that the characters show the existence of strokes in the modern sense of the term, are a little wider than high, although they usually each take up a hypothetical rectangle of the same size, and by the characteristics of their strokes. In certain styles of Li-script the last stroke is more pronounced, that is, it is thicker and drawn out a little longer than the other strokes of each character. Although there are angles, they usually do not appear as sharp as in the later “regular script” 楷书 *kǎishū* which is appreciated for its elegance, making Li-script characters look clumsier.¹¹

However, the style of strokes and the relative proportions of character components are only surface phenomena. What really makes this development so interesting are the changes that happened within the character system.

Several processes of change can be identified. Some of these primarily concern formal aspects of the characters, while others primarily affected them structurally. This distinction is partly artificial but it helps to break down the information and make this complex development accessible to our understanding.

3.1. Formal Changes

There was more than one process that affected the shape of the characters. Together these processes reduced the iconicity of characters at the graphical level.¹² Furthermore, they led to the evolution of the modern notion of “stroke” (笔画/筆畫 *bǐhuà*). These processes were:

but not completely writing out the details of each component and so forth. For a picture search use “li running script”.

11. To appreciate the stylistic differences between Li-script and “regular script,” try first doing a picture search for “han dynasty li script” and then another one for “wei dynasty kai script,” possibly in a new tab or register card, then compare. There are also books available which show the formal development of characters. L. Li (1992) treats 500 characters, most of them simple ones deriving from pictographs, so the stylistic changes are visible but not the systematic ones discussed in the next section. H. Wang (1993) discusses and shows a large number of simple and complex characters grouped in seven topical chapters. In most cases, the author presents more than one version of the same character from various script styles respectively. Although these books were written for laypeople and language learners, they provide a good glimpse at the formal variety of characters through history.

12. In fact, in 2014 and 2015 proposals were made to include Small Seal script characters in Unicode. The tables included in the 2015 proposal provide an opportunity to view large numbers of characters in their Seal script form and their modern appearance next to one another. See X. Li et al. (2015, p. 6–753).

- Straightening and angularization: Lines which had been round or bent to a certain degree in the Seal scripts, like bow-shaped lines and semicircles, were straightened out. So were lines in complete circles which were first broken up into semicircles and then straightened. Consequently, changes of directions even within one stroke (or what would become a stroke according to the modern notion of the phenomenon) which had been “round corners” became distinctively angular.
- Reduction: Quite a few characters lost one or more strokes or entire components. (See more below.)
- Junction: Lines which had been distinct and separate before now became joined, that is, they evolved into one stroke, in many cases a complex stroke involving an angle.
- Disjunction: In other cases, what had been one stroke before in the Seal script was broken up into two or more strokes in the Li-script.
- Addition: In some cases strokes were newly added to characters, possibly to improve their aesthetic balance.
- Repositioning: In some characters and character components strokes changed their place or rotated. In some cases complete components were rotated.
- Rounding or bending: There are not only cases of straightening but also of rounding. This mostly happened to lines that formerly had been slanted and not completely straight. During the Li-variation, certain slanting or curved lines developed into angular strokes.
- Changes in length: Both lengthening and shortening can be observed to have happened. These changes are owed to the fact that writers strove for evenness and balance both of the individual character and the entire text.

3.2. Structural Changes on the Level of Components

The following processes primarily affected the structure of compound characters and were not purely graphical. The addition of a stroke to a component for aesthetic reasons may result in this component changing its identity, such that one could also say that the former component was substituted with another one. However, it is not possible here—and not intended—to formulate and discuss criteria which could serve to separate cases of one kind from the other. We shall have to stay on a rather macroscopic and abstract level.

- Stabilization of the position of certain components, possibly with consequences at the graphical level: The graphical process of repositioning was already mentioned above. Repositioning is even more significant on the level of components. In the Seal scripts, allographs for the same grapheme (in the sense of whole character for a certain

word or morpheme) can be found which show that certain components could be written in various positions relative to one another without making a difference in meaning or pronunciation. In other words, the position a certain component could take up in “one and the same” character was not stable. Still, the component in question would have the same size and graphical shape in all its possible positions. This situation changed during Li-variation: Components that had formerly behaved unstable increasingly found a fixed position within the character or several characters they were constituents of, respectively. However, in many cases the same component ended up taking one position in one character and another in a different character. For many components, this process did not effect any significant changes on their shape, although some shift in relative size may have occurred; for others, the result was the development of allo-graphic components. These were not freely interchangeable, so eventually several different components resulted. The “heart” component 心 is a case in point: What had been one component before ended up as at least three: 心 (as in 想), 忄 (as in 情), and the four-stroke bottom component of 恭. As a result, readers and writers of Chinese must learn three shapes instead of just one for “heart”.

- Characters of the “signific + phonetic” category underwent still more changes on this level which also concerned the ability of their components to function as a signific or phonetic component.
 - Reduction of signific components: In the Seal scripts there were many characters whose signific component consisted of more than one minimal grapheme. During Li-variation, many of these lost some or all of the minimal graphemes making up the signific. In many cases, this made sense, especially where redundant components were eliminated. If at least one signific component was left, the resulting Li-character would still belong to the “signific + phonetic” category; otherwise it would then belong to another category or end up as one of those characters which are hard to categorize in the traditional system. This process could also happen to “signific + signific” characters of the compound indicative category.
 - Reduction of phonetic components: Several situations are possible. (1) If a part of the phonetic component was eliminated during Li-variation and the remainder gave no phonetic hint any longer, the resulting Li-character would no longer belong to the “signific + phonetic” category. It possibly became hard to categorize. (2) If the phonetic component itself was a character of the “signific + phonetic” category and a part of it was lost, the resulting Li-character could still belong to the “signific + phonetic” category if the remains of the component were able to function as a phonetic because it had been the phonetic part of the embedded

signific-phonetic character from the start. (3) If the phonetic component was simplified or reduced in the same way within all the characters it was a constituent of, taking up an identical shape in the resulting characters concerned, the resulting characters consequently would still belong to the “signific + phonetic” category and the new subcomponent would still function as phonetic.

- Substitution of the signific component: In certain characters, significs were substituted to achieve greater semantic transparency or writing economy. Researchers in China have identified groups of allographs with different significs that show that in the centuries of Li-variation it was by no means clear which of several eligible significs would be the best for certain characters, even if at the end one signific in each group may have gotten universally adopted. Some of the substitutions found in texts of the era in question result from confusion of graphically similar components. Others appear to be attempts to find the component that would best support the semantic transparency of the character.
- Substitution of the phonetic component: These substitutions probably happened to improve the fit between the reading of characters of the “signific + phonetic” category to contemporary pronunciation. This resulted in new series of characters sharing the same phonetic component.
- Addition of signific components: In many such cases the basis was a character of the simple or compound indicative category or the signific-phonetic compound category. The aim can usually be identified to be the creation of a character for a meaning (se-meme) formerly covered by the base character which had either been a phonetic loan or generally polysemous. Research into the Chinese character inventory and lexicon has shown that during the Han period the need intensified to write down words for which no characters had yet been developed. For a while the gap had been filled through extensive borrowing. However, later many of the phonetic loan characters were equipped with signific components which resulted in a considerable growth of the “signific + phonetic” category. This category was to remain the most productive one of the four.
- Complication of the phonetic component: In some cases the phonetic component became more complex by being exchanged for a complex character which contained the original component as one of its constituents.
- Exchange of a pictographic signific component for a phonetic component: Some of the resulting characters can be seen as consisting of two phonetic components, thus as having one component which serves both as phonetic and signific.

- Exchange of a pictographic component for a signfic one: As the iconicity of many characters decreased in the process of Li-variation, the loss of semantic transparency was at least partly compensated for by using established significs instead of holding on to strokes with a formerly pictographic function from a time when the characters had been closer to pictography.
- Convergence of various combinations of components—possibly with varying functions in the respective original—to form a single new one. For the result, there are two possibilities: (1) The resulting component could function neither as a signfic nor as a phonetic; (2) It was able to function as a phonetic or signfic component.

3.3. A Look at One Group of Characters for Exemplification

To get an idea of the impact of Li-variation let us just look at one group of characters that were affected. What these characters have in common now is their top component. Before Li-variation their top halves had been composed of different component combinations, some of which had displayed a certain graphical similarity.

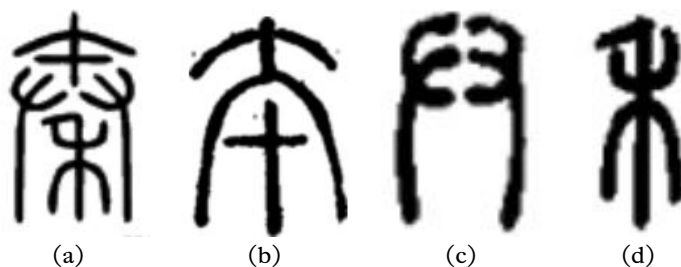


FIGURE 1. (a) 秦 (*qín*), form. (b) Top component (*tāo*), full Seal form. (c) Two hands with fingers pointing to the middle, Seal form. (d) Stalk of grain, Seal form

秦 (*qín*), Name of the state that unified China at the end of the Warring States period, 3rd century BCE (Fig. 1a): The top component of the Seal script version (Fig. 1b) is thought to have represented a pestle for grinding grain, beneath it there were two hands with the fingertips directed to the middle (Fig. 1c), the arms curving down to the left and right corner, respectively, and between the arms there is the character for “stalk of grain” (Fig. 1d). After the era of oracle bone inscriptions this character seems not to have been used for its original meaning (grain or

millet ready for grinding?), but only for the name of the empire of Qin and related names. A phonetic component cannot be identified.

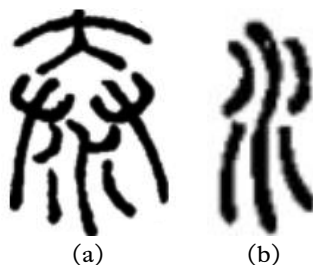


FIGURE 2. (a) 泰 (*tài*), Seal form. (b) 水 (*shuǐ*, water), Seal form

泰 (*tài*), peaceful, safe, very positive (Fig. 2a): The top component was the character 大 (*dà*, big, great), under its spread legs there were two hands with the fingertips directed to the middle (Fig. 1c), the arms curving down left and right, and between the arms there was the character for “water” in its ancient form (Fig. 2b). Here the top component served as the phonetic.

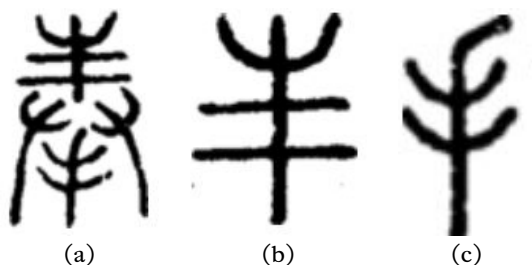


FIGURE 3. (a) 奉 (*fèng*), Seal form. (b) 丰 (*fēng*), Seal form. (c) 手 (*shǒu*, hand), Seal form

奉 (*fèng*), to present with both hands plus various meanings involving some kind of providing in a respectful way (Fig. 3a): Bronze inscriptions contain a simpler form of this character in which two hands offer a bundle of grain stalks (top part) representing abundance. The old top part was a character meaning “abundant”: 丰 (*fēng*) (Fig. 3b); it is identified as the phonetic component in this character. The Seal script shows a third hand (Fig. 3c) between the “arms” of the two hands, possibly to fill the space there and to reinforce the meaning. In the modern version of the character, this “hand” can be argued to occur in reduced form.

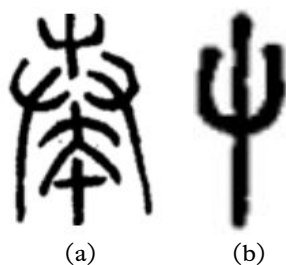


FIGURE 4. (a) 奏 (*zòu*), Seal form. (b) Top component 𠂔 (*chè*, plant sprout), Seal form

奏 (*zòu*), to perform, to effect (Fig. 4a): At the top there was a single plant sprout, i.e., a “rounder” version of 𠂔 (*chè*) (Fig. 4b), two hands underneath and the character (*tāo*) (Fig. 1b), to go forward quickly, which has fallen into disuse in the meantime, at the bottom between the “arms”.¹³

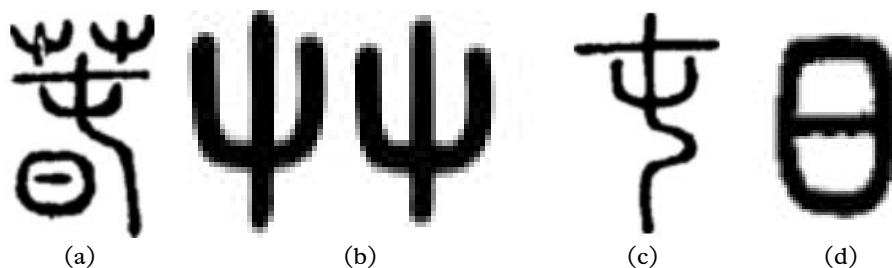


FIGURE 5. (a) 春 (*chūn*), Seal form. (b) The “grass” component, Seal form. (c) 屯 (*tún*), Seal form. (d) The “sun,” Seal form

春 (*chūn*), spring (Fig. 5a): This character in its Seal form comprised a component indicating “grass” at the top (a “rounder” version of the modern component, cf. Fig. 5b), the phonetic 屯 (*tún*)¹⁴ (Fig. 5c) in the middle, the last stroke of which curved down to the right, and to the left of this curving stroke a “rounder” version of the character 日 held to be a pictogram of the sun (Fig. 5d). This was a character of the significant-phonetic category. Its former phonetic component 屯 (*tún*) (Fig. 5c) is

13. It is interesting to note that the *Shuōwén* does not explain the component between the arms to be the phonetic of this character.

14. The *Shuōwén* explains this to represent a tender plant sprout having difficulties to push through the earth, thus meaning “difficult”. Thus, it may be argued that besides being the phonetic of the character, this component also supports its meaning.

still existent in the modern inventory and hints at pronunciations like *chun*, *dun*, and *tun*. Especially the components “grass” and “sun” may have helped to associate this character with its meaning of “spring time”.

This character is a bit particular, because after Li-variation one of its forms was a character of the same composition, just showing the graphical characteristics of the Li-script. However, as time went on and the “regular script” developed, the form 春 became popular and eventually superseded the Li-script form; a number of variants of this character also appeared, but 春 eventually was the form which won out as the orthographically accepted one. So in this case the fact that this character shares its top part with those discussed above cannot be solely attributed to the processes of Li-variation as evidently a certain degree of variation also went on when the Chinese writing developed into “regular script”.

As is discernible by comparing the Seal characters with the modern post-Li-variation versions of these characters¹⁵, the curved lines of the “arms” were straightened out and shortened, although they retained a certain slant to the left and right; the “fingers” were straightened and joined which resulted in horizontal strokes intersected by the left arm and the right arm joined beneath the third horizontal stroke; additionally, whatever had been atop the “hands” was melted together to form a horizontal stroke also intersected by the left-slanting “arm” stroke; and the strokes of the lower part were also straightened and angularized and—like in the case of 奉 (*fèng*)—simplified. The resulting bottom “hand” in the modern character 奉 (*fèng*) has a different form from the more common “hand” components 手 (*shǒu*, hand) and 扌 (the “upright hand” radical), while in the modern character 奏 (*zòu*) the bottom component now is 天 (*tiān*, heaven, sky; day) with a slightly varied right slanting last stroke due to the position it is placed in. The “grain stalk” in the modern character 秦 (*qín*) and the bottom “water” component in the modern character 泰 (*tài*), however, have assumed—or retained—the same forms as their counterparts elsewhere in the inventory.

So now, after Li-variation, and in the case of 春 (*chūn*) finally after the evolution towards “regular script,” these characters of different origins have a common top component. Three had the “two hands with fingertips directed towards each other” in common as well as the fact that there was something above the hands and something between the “arms” which used to extend to the bottom corners. Two of these three had had a phonetic component at the top which is not discernible any more today. The last character, 春 (*chūn*), in the end developed the same top part as the other ones, probably because the “grass” component (5b) graphically

15. There is another character with the same component at the top, 舂 (*chōng*, to grind something in a mortar), but discussing it would not add anything new to the argument.

somewhat resembled the two hands (1c) and the whole arrangement of components resulted in a similar outline of the character even though it originally lacked something like a “left arm”. This character lost its phonetic component when its “regular script” version developed.

All these characters in their modern forms must be memorized separately because their components do not tell the story of their (basic, original?) “meanings” nor give hints as to their pronunciation.

4. Summary

Especially during Qin and Han times (3rd century BCE through 3rd century AD), due to socio-cultural and economic reasons, the Chinese script underwent a profound change which led from the “old script” (古文 *gǔwén*) to the “modern script” (今文 *jīnwén*). Graphical changes occurred which among other things led to a loss of iconicity. In other cases, pictographically motivated traits were exchanged for components of established signfic function. In many characters, components were deleted, reduced, or substituted. Certain components lost their positional flexibility and assumed fixed positions within the characters they were constituents of. Certain (old) components split up into more than one new form, in effect becoming different (new) components. In other cases, various combinations of components melted together to form one identical new component devoid of the iconicity of its various forebears and not necessarily useful as phonetic or signfic component. A lot of new characters appeared which had no attested forerunners in Seal scripts or older inscriptions.

By the end of the Han period, the Chinese character system appears much more clearly than before as a system employing phonetic and signfic components of little iconicity, functional mainly by their association with certain pronunciations or “meanings,” respectively, to form characters of the “signfic + phonetic” category as the main units of its inventory. In fact, these characters comprise about 80 percent of the inventory at least since the first century AD (cf. DeFrancis 1984, p. 84).

When the resulting system was handed on and received by younger generations who were no longer familiar with the old Seal characters, the relationships between components were all the more perceived as they now appeared to hold. Thus, etymology with reference to the analyses in Xu Shen’s lexicon *Shuōwén-jìezì* (说文解字, Explanation of simple characters and analysis of complex characters; c. 100 AD) became an area of knowledge for specialists. Not everything about the Chinese writing system changed in the course of Li-variation: There is still a one-to-one relationship between morpheme, syllable and character in writ-

ten speech.¹⁶ People may disagree on the question whether “watershed” or “turning point” are adequate metaphoric expressions to characterize the Li-variation. However, even those who do not like these metaphors¹⁷ do not doubt that the Li-variation led to the development of the modern Chinese script.

Acknowledgements

I would like to thank my Chinese mentor and friend Prof. Wan Yexin 万业馨, Beijing, for her teaching, her critical comments and constant support during the past twenty-plus years. Not only have I greatly profited from our discussions about Chinese scripts, the character system, calligraphy and so forth, she also always finds a way to get a book or other material for me and to me when I need it for the next step in my research.

References

- Bohn, Hartmut (1998). *Quantitative Untersuchungen der modernen chinesischen Sprache und Schrift*. Hamburg: Kovač.
- DeFrancis, John (1984). *The Chinese Language: Fact and Fantasy*. Honolulu: University of Hawai'i Press.
- (2011). *Die chinesische Sprache: Fakten und Mythen*. Trans. by Stephan Puhl. Nettetal: Steyler Verlag.
- Feng, Zhiwei (1994). *Die chinesischen Schriftzeichen in Vergangenheit und Gegenwart*. Trans. by Wolfgang Kühlwein. Trier: Wissenschaftlicher Verlag.
- Fu, Yonghe [傅永和] (1993). “汉字结构和结构成分的基础研究 [Basic Research on the Structure of Chinese Characters and Their Structural Components]”. In: 现代汉用字信息分析 [*Analyses of Data about the Use of Modern Chinese Characters*]. Ed. by Yuan Chen [陈原]. Shanghai: 上海教育出版社 [Shanghai Jiaoyu Chubanshe], pp. 108–169.

16. Phoneticians would find reason to object to this—only slightly rough—characterization as modern Chinese speech provides cases where the pronunciation of certain two-character expressions results in one syllable phonetically. However, when native speakers read out text carefully, they usually read out one syllable for one character. Morphologists would also slightly object as there is indeed a small number of characters which stand for submorphemic syllables. In other words, the Chinese lexicon does contain some morphemes and simple words which need more than one character to write and more than one syllable to read out. The existence of these words—some of which are of venerable ancientness—let the fact that in the vast majority of cases a 1:1 relationship holds appear even more salient.

17. In fact, Zhao Pingan himself, on whom I rely heavily for this paper, doesn't like these metaphors, part of the reason being that he takes them too literally. (Cf. Zhao 2009, p. 71–72)

- He, Jiuying [何九盈], Shuangbao Hu [胡双宝], and Meng Zhang [张蒙] (1995). 中国汉字文化大观 [Grand Overview over the Culture of Chinese Characters]. Beijing: 北京大学出版社 [Beijing Daxue Chubanshe].
- Li, Leyi [李乐毅] (1992). 汉字演变五百例-修订版 *Tracing the Roots of Chinese Characters—500 Cases*. Beijing: 北京语言大学出版社 [Beijing Yuyan Xueyuan Chubanshe]. German version: *Entwicklung der chinesischen Schrift am Beispiel von 500 Schriftzeichen*, Beijing: Verlag der Hochschule für Sprache und Kultur, 1993; French version: *Évolution de l'écriture chinoise*, Beijing: Éditions de l'université des langues et cultures de Beijing, 1993.
- Li, Xian [李鑫] et al. (2015). "Proposal to Encode Small Seal Script in UCS". ISO/IEC JTC1/SC2/WG2 N4688 L2/15-281, <https://www.unicode.org/L2/L2015/15281-n4688-small-seal.pdf>.
- Qiu, Xigui [裘锡圭] (1988). 文字学概要 [An Outline of (Chinese) Grammatology]. Beijing: 商务印书馆 [Shangwu Yinshuguan].
- (2000). *Chinese writing*. Trans. by Gilbert L. Mattos and Jerry Norman. Berkeley, CA: Society for the Study of Early China.
- Slaměńíková, Tereza (in this volume). "On the Nature of Unmotivated Components in Modern Chinese Characters".
- Wang, Fengyang [王凤阳] (1989). 汉字学 [Grammatology of Chinese characters]. Changchun: 吉林文史出版社 [Jilin Wenshi Chubanshe].
- Wang, Hongyuan [王宏源] (1993). 汉字字源入门 *The Origins of Chinese Characters*. Beijing: Sinolingua. German version: *Vom Ursprung der chinesischen Schrift*, Beijing: Sinolingua, 1997.
- Woon, Wee Lee (1987). *Chinese Writing: Its Origin and Evolution*. Macau: University of East Asia.
- Zhang, Jingxian [张静贤] (1992). 现代汉字教程 [Course on Modern Chinese Characters]. Beijing: 现代出版社 [Xiandai Chubanshe].
- Zhao, Pingan [赵平安] (2009). 隶变研究 [Research on the Li-Variation]. Baoding: 河北大学出版社 [Hebei Daxue Chubanshe].