

The Derivational Character of the Chinese Writing System (by Johann-Mattis List, 14.11.2007)

The Chinese writing system is famous for its semantic characteristics: Each character expresses a certain meaning. Phonetically each character refers to one syllable of the Chinese language. One could therefore call it a “semantic-syllabic writing system”. At the same time it is usually stressed that the Chinese writing also has a phonetic component. It is therefore called a “phonetic-semantic writing system” (意音文字 *yìyīn wénzì*)¹, since the characters show elements with semantic and phonetic function².

But is the difference between the Chinese writing system and alphabetical scripts only accounted for by the fact that it encodes semantically *and* phonetically? This could as well be said about the English alphabetical writing, since it shows different spellings for homophones (compare ‘*bright knight*’ and ‘*bright night*’). The general difference between alphabetic writing systems and the Chinese characters is that the former constitute a transformational system, while the latter has a derivational structure.

This deserves a brief explanation. A transformational system is a system which is rule-driven, explicit, and predictable. Alphabetical systems refer to the language they encode by means of phonology. The underlying process is rule-based and in most of the cases predictable. Not only is it possible to predict the pronunciation of unknown words of the target language, but also the degree of variation between different “writers” of the language is rather low. Derivational systems on the other hand are not rule-driven, not explicit, and not predictable. Only afterwards can they be described by means of motivation. While the learning of transformational systems only requires mastering their rules, derivational systems have to be learned in their completeness.

The term “motivation” is usually used in derivational morphology and refers to the ‘*degree to which [the complex word] can be understood as the sum of the parts of its meanings and their manners of combination*’³. Motivation is a gradual concept and implies perspicuity and comprehensibility, but it is neither regular nor explicit in the sense that it only gives one possibility of expression. How the speakers of one language have decided to express certain concepts may be understandable, but it is never predictable. That the Chinese train is called 火车 *huǒchē* (‘*fire-car*’) is clearly motivated, but the speakers could as well have decided to

¹ See: Zhōu (1957): ‘[汉字是] 综合运用表意兼表音两种表达方法的意音文字’.

² See: DeFrancis (1984, 69-130).

³ Metzler Lexikon Sprache („Motiviertheit”, 458): ‘*Ausmaß, in dem [das komplexe Wort] sich als Summe der Bedeutungen seiner Teile und der Weise ihrer Zusammenfügung verstehen lässt* (my translation).

use another description (e.g. 雾车 wùchē ‘steam-car’, etc.). Derivational systems are in a certain sense similar to the uncertainty relation of physics: Only the process of measuring shows the state of the object under observation. Furthermore, derivational systems can almost only be explained from a diachronic viewpoint, since formerly transparent motivation structures tend to bleach and to be completely lexicalized.

How is the derivational character of the Chinese writing system expressed? Let us first consider some concrete characters. A great number of them shows a binary referential structure⁴: One element determines the meaning of the character, another its reading: 房 fáng (‘house’), 访 fǎng (‘to visit, to ask’) and 放 fàng (‘to put’) all have the phonetic component 方 fāng (‘area; square’)⁵. As we consider some more characters, it becomes, however, quite clear, that not all characters that have a 方 are read [faŋ]. In the character 旗 qí (‘flag’) it is just a graphic element of the semantic component 𠂔 yǎn (‘flag’) while the phonetic component 其 qí gives the pronunciation⁶. Whether an element of the Chinese writing system refers semantically or phonetically is not predictable in most of the cases. We therefore can conclude for the beginning that the referential structure of the characters is “polyfunctional”⁷: ‘distinct from alphabetic or syllabic languages, there are no grapheme-to-phoneme rules to guide the reader’⁸.

A further problem is related to the referential potential⁹ of the writing’s phonetic and semantic elements. While the foregoing examples only vary in tone, the character 旁 páng (‘side’) additionally shows a different initial consonant. As we consider the characters 施 shī (‘do’), 迤 yǐ (‘winding’), and 拖 tuō (‘pull’), it becomes quite obvious that, although they all share the phonetic component 也 yě, their readings differ radically¹⁰. The phonetic elements of the Chinese writing system vary greatly in their phoneticity, i.e. in their phonetic reliability. The same can be said about the semantic components: the already mentioned example 访 fǎng

⁴ According to Chang (1998, 166f), ‘over 80% to 90% of Chinese characters represent sound elements’.

⁵ Karlgren (1964) lists 1258 different phonetic components.

⁶ 𠂔 was originally meant as a pictograph of a flag. The left element of the character later merged with the character 方. The former distinction can still be seen in the old oracle bone inscriptions: 𠂔 (‘flag’) vs. 𠂔 (‘area, square’), see: Dòu/Dòu 2005: 108/336).

⁷ Compare Qiú (1988, 13): ‘有很多汉字在充当合体字的偏旁的时候，既可以用作音符，也可以用作意符，而且还能兼起音符和意符的作用’.

⁸ Hoosain (1991, 10).

⁹ See: Schwarz (1996, 175) „Die sprachliche Referenz wird von drei Aspekten geprägt: von der Gebundenheit an die Ausdrücke einer Sprache, von der Determination durch die lexikalischen Bedeutungen, die mit den Ausdrücken konventionell verbunden sind und die das jeweilige Referenzpotential (d.h. die Klasse aller möglichen Referenten) eines Ausdrucks festlegen, und von dem Gebrauch sprachlicher Ausdrücke in bestimmten Situationen durch einen Sprecher“.

¹⁰ I follow Karlgren (1964: 21), who lists 它, 也 and 𠂔 as variants of the same phonetic component.

(‘to visit, to ask’) has 讠 (*yán*, ‘language’) as a semantic element. If the character is used to express the meaning ‘to visit’, its semantic component cannot be motivated directly. The low semanticity of the writing becomes even clearer as one considers the so-called pictograms: even if one knows the meaning of 象 *xiàng* it is not quite obvious that it is the picture of an elephant.

How can this be explained? In part surely by the fact that the Chinese writing which is in use today is in its basic features the same as 2000 years before: while the characters maintained their basic internal structure to a great extent, their readings changed greatly. From an Old Chinese perspective plausible phonetic motivations have been lost since then. The reading of an unknown character cannot be explicitly derived from its form. It is only possible to motivate its phonetics, if one already knows it. Today semantic and phonetic components of the Chinese writing system have only a mnemonic function.

A further reason is the derivational character of the script. Chinese characters have not been produced in a transformational act. They have been formed in a long-lasting process of derivation¹¹. In Chinese linguistics it is therefore useful to talk about “character formation” (*zàozìfǎ* 造字法) in analogy to “word formation”, since the two processes are comparable: new characters are “derived” by combination of already existing characters. The form of these new characters did not depend on the rule-based transformations but on subjective motivations. In times when the referential potential of phonetic and semantic elements was higher, it was surely possible for the speakers to recognize unknown characters according to their motivational structure and to identify them with words in their language (provided they knew the word): *‘The so-called phonetic compounds represented sounds fairly closely when they were made, but often are no longer appropriate for modern pronunciations’*¹². As we compare the reconstructed pronunciations for Old Chinese, however, it becomes clear that already in ancient times there was a significant degree of unpredictability: 𠄎 AC *khaj? (‘may’) vs. 何 AC *gaj (‘how?’)¹³. The speakers and readers could guess the words when being shown the characters, but they could not predict how a word whose character they did not know would have been written by others. This strongly resembles what we find in word compounds: the meaning may be intelligible to speakers when they hear a compound word the first time, yet they have no chance to predict the form of the word when only given its

¹¹ Chang (1998, 167f): *‘Chinese characters were created by speakers of many different varieties of Chinese and often reflect the peculiarities of their speech. There have been historical changes in word order; and, the characters have been shuffled around to adapt to these changes’*.

¹² Chao (1976, 92).

¹³ The reconstruction of Old Chinese follows Baxter (1992).

meaning. Additionally, the change in writing, pronunciation and meaning led to a bleaching of the formerly transparent character structure and provoked their gradual symbolization¹⁴.

Hence, the Chinese writing system should not be called a “phonetic-semantic writing system”, since this implies functions which the system does not have today and probably did not have 2000 years before. I agree with the proposal made by Yuanren Chao, who describes the Chinese script as a ‘*morpheme-syllabic writing*’¹⁵. The proposed distinction between derivational and transformational systems (in analogy to derivational and grammatical morphology) emphasizes that the Chinese writing system cannot be learned by acquiring a closed set of rules, but has to be mastered in its completeness (as the lexicon of a language has to be learned completely). The writing might give some hints about pronunciation and semantics which show regularity to some extent, but whether these regularities are the case when being confronted with an unknown character is usually unpredictable. Phonetic and semantic elements (which the script shows from a diachronic viewpoint) should therefore only be characterized within the concept of motivation, which emphasizes their unpredictability but potential comprehensibility.

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¹⁴ Compare Qiú (1988, 13): „由于字形和语音，字义等方面的变化，却有很多意符和音符失去了表意和表音的作用，变成了记号“。 ‘Symbol’ is used according to von Peirce.

¹⁵ Chao (1968, 102).