How Pictorial is Chinese? And Does it Matter?

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It has often been said that the Chinese script is pictorial or ideographic, and that this is one of the reasons why Chinese tend to think more analogically than logically, and why in the past the natural sciences have developed to a lesser degree in China than in the West. These are strong claims. Is it really true that Chinese is pictorial? Do the Chinese tend to think more analogically compared with Europeans? Is it also true that in the past the natural sciences developed to a lesser degree in China in comparison with Europe? These claims have often been oversimplified and exaggerated, but I think there is something to be said for them. The problems are in the details. In this short essay I will focus on the first question. I will argue that although Chinese can be said to be as "logographic" as any other language, Chinese characters still have semantic structures that create certain image-like qualities, not only through mere resemblance between sign and object, but also through family resemblances within semantic fields. The fact that Chinese is an isolating and basically monosyllabic language is essential in this.

Three or four thousand years ago we find patterns and inscriptions on oracle bones, which evolved over time and took their present form one or two thousand years later. In the beginning (1) they were pictorial signs for some basic objects and ideas. Then (2) they began to stand for spoken words. Some argue that it is only at this stage that we should speak of writing proper (Boltz 16-28, Sampson 149) and that this happened in China only around 1200 BC (Boltz 31), whereas a comparable stage of development in hieroglyphic writing was reached in Mesopotamia two thousand years earlier (Boltz 55). At this stage the signs functioned semantically (S). In a third step (3a) they were used for other words that happened to be pronounced similarly, in which case they functioned phonetically (P). As Classical Chinese tends to be monosyllabic and as there are more words than syllables, many such cases occurred. Additionally, the signs were also used for other words that had similar meanings (3b). Thus much confusion arose whenever a single sign stood for different things. Mere similarity in sound or meaning led to identity in writing. To remove such confusion the signs had to be disambiguated. Thus additional semantic and phonetic signs were attached, creating more complex written signs with more definite meanings (4). This led to the Chinese characters as we have them today. They usually have a semantic part (S) and a phonetic part (P) that are drawn from a pool of about 200 semantic and 1000 phonetic elements and that are usually characters themselves. Thus we have about 200 - 1000 possible SP combinations. But most of these are not realized and another way is used as well, combining more than two elements into one character.

It is important to notice that there are always choices involved in borrowing and combining and that pronunciation has changed over time and has varied from place to place. Hence it is now difficult to disentangle each historical strand for each individual character. There is no uniform scheme from which one could derive the connection between written and spoken words. Consequentially, learning how to read and write requires much memorization.

Let me tell the story in another way. Classical Chinese is monosyllabic: one word, one syllable. In modern Mandarin Chinese, there are about 1000 syllables, including tones. But there are more than 1000 words. Although in modern Chinese different monosyllabic words have often been combined to create new words, homophony is still widespread and context plays an important role. Each monosyllabic word is represented in writing by a single character, but differently from speech there are infinitely many possible written signs. Ten different words that happen to be pronounced identically (homophony) can thus be easily represented by ten different signs. This is a consequence of the fact that Chinese writing is not phonetic. It is not linked to the spoken language as closely as is the case in languages with an alphabet. Although Chinese writing has phonetic elements, it is not as phonetic as Latin or German, where we basically know how to write once we know how to speak, and vise versa. Even English is easier than Chinese in this respect.

It seems to me that the monosyllabic structure of Chinese has been cemented by the continued existence of written characters that do not invite inflections. Humboldt has called Chinese an "isolating" language, and it is still so classified today. He thought that Chinese isolates words, ideas, and characters: "The Chinese writing expresses, by a single sign, each simple word and each integral part of composed words; it suits the grammatical system of the language perfectly. The latter offers ... a three-fold isolation (*un triple isolement*): of ideas (concepts), words, and characters (*des idées, des mots, et des caractères*)" (Humboldt 172). The monosyllabic structure does not allow for inflections, and Chinese therefore has no morphology. It has less grammar in that sense, i.e. less morphology, and relies more on its syntax.

This three-fold isolation comes with what Humboldt called the "image" or "picture" character of the Chinese writing system: "The characters form an additional image (*une image de plus*) with which the ideas clothe themselves (*de laquelle se revêtent les idées*), such that the image blends (*s'amalgame*) with the idea for those who frequently use those characters" (Humboldt 172).

But what exactly is meant by "image" here? If the ideas "clothe" themselves in their written images, the latter, I think, are more than mere representations, i.e. more than attachments to the spoken words. They are an essential and integral part of the language itself. Alphabetic letters add less. Those who have argued against the idea that Chinese is pictorial or ideographic (as for instance Boltz) have often said that Chinese writing represents the spoken language as in any other language. All languages, they say, behave in this way. In their view language is always "logographic", or "glottographic". But it seems to me that this view is mistaken. It pays no attention to the deeper mental structures and argues too easily in either-or alternatives. In the case of Chinese, it down-plays the relevance of the semantic parts and underestimates certain psychological and sociological aspects of the writing system, as I will explain.

The semantic parts, mainly the so-called "radicals" or better "classifiers" (Boltz 68), are central in the use of dictionaries and the process of learning how to read and write. The Chinese have used and relied on the disambiguating function of their script, they have given much attention to graphic etymology, and they have highly valued calligraphy as a form of art. Thus in many respects the written form of language is much more important in Chinese than in Ancient Greek, Latin, English, or German. It has formative impacts in many ways.

Even if it can well be said that a written word always represents a spoken word, i.e. that the writing is logographic, it makes a difference whether the spoken word is phonetically decomposed, say by means of an alphabet, or not. Once we see that it is not so decomposed but left as a whole, Humboldt's observations about Chinese make much sense: that it is an "isolating" language, that the ideas "clothe" themselves in additional "images" (les charactères forment une image de plus, de laquelle se revêtent les idées, 172), that "the mind is directed more directly towards the idea expressed" (l'esprit doit se tourner entièrement vers l'idée), that through the Chinese grammar "the mind is asked to find in almost every word an idea that occupies it by itself" (en faisant trouver à l'esprit, presque dans chaque mot, une idée capable de l'occuper à elle seule 173), that conformities and oppositions between ideas "strike us with a new force" (frappent l'esprit avec une force nouvelle) and push our mind to follow and imagine their mutual relationships" (le poussent à poursuivre et à se render presents leurs rapports mutuels 158).

The question whether or not Chinese is pictorial (or ideographic) is thus more than just a linguistic question in the narrow sense. It leads into psychology and even metaphysics, because we have to ask what exactly are meanings and what is going on in our minds when we think and imagine things. Chinese characters appear more isolated from each other, filling a square, and being composed in two-dimensional ways with places above and below, to the right and left, and diagonally in corners. Written words composed of alphabetic letters don't have this structure. Letters simply follow each other one after another strung up along a single line, which invites graphic notation of inflection. But in Chinese, holding on to characters has hindered the development of morphology. Connections between words must therefore be made in other ways, relying more on syntax and contexts. The mind cannot rely on morphological schemes, general structures that I have called "systematic schemes of variation" (SSV, Wenzel 2007, 303). The visual two-dimensionality and the absence of inflections create different impressions and different tasks for the mind. Characters are differently stored in the brain, and Humboldt's view about ideas "dressing themselves" in "images", can be better understood in this light. Already mathematically there is a difference: thirty meaningless letters of an alphabet are very different from 200 plus 1000 more or less meaningful basic characters.

Let us come back to the view of those who see Chinese characters as well as any other form of writing as "logographic". They argue that only signs that represent spoken words should be called writing. A red cross on an ambulance has meaning but should not be taken as an instance of writing. Emblems of clans are not writing either. Only when they begin to be associated with the *name* of the clan, when they stand for a spoken word in a language, does writing begin. Also characters of the form SP, composed of a semantic part S and a phonetic part P, are signs of spoken words. The formerly pictographic function of S has become irrelevant, they argue, because the picture does not resemble its object any more and the pictorial function has been given up for the logographic one. But I think this is not right. The pictographic feature has not become irrelevant, but has left traces and keeps leaving them in the mind of the language user as well as in the structure of the language itself.

It is not only resemblance that makes a picture. Let me explain. If you consider the sign S occurring in different characters with different phonetic parts SP₁, SP₂, SP₃, SP₄, etc., it is those phonetic parts that indicate the pronunciation while the semantic part S indicates a broad range of meaning. The sign S is useful in learning the meanings of those characters. It groups them together into a class of characters that creates a field of meaning. The semantic part

虫 hui3

for instance indicates spiders, insects, worms, and other cold-blooded animals and occurs in the characters

- 虯 qiu2, young dragon;
- 蚊 wen2, mosquito;
- 蚋 rui4, gnat;
- 蜱 pi2, large ant;
- 蚜 ya2, plant louse;
- 蚨 fu2, water beetle;
- 蚰 you2, millipede; etc.

This list could go on for another 100 entries. The semantic parts were usually originally pictures and then became stylized to such a degree that we can see the resemblance with the objects only when told what objects they were meant to depict. But once you are told, once you see it, you will not easily forget. Even if you have forgotten how to draw the resemblance, the semantic field remains vivid in your mind, because you know many words written with characters that contain that very semantic part. Hence this part S retains, I claim, the quality of a picture. It depicts that whole semantic field. Connections with semantically related words are graphically realized in the brain. Many characters have a more phonetic etymology and for them this graphic-semantic strategy fails, but the intention remains.

Here we have a very interesting instance of Wittgenstein's family resemblance in the Chinese writing system. All those objects referred to by characters containing the same semantic element form a family, and it is this family that the semantic element "depicts". The point is that the "common property" comes through the writing. Now, it might be argued that also in alphabetic languages a single word can occur in many composed words and thus create a semantic field. This is true, but such composed words have more than one syllable. Thus the family-resemblance phenomenon cuts much deeper in Chinese than in languages with alphabetic writing system. In Chinese it occurs through the writing and for almost every monosyllabic word.

Thus I think the pictorial aspect of Chinese characters does not only rely on a superficial resemblance between the sign and its object, but also on indirect similarities (family resemblances) between the objects grouped together by one semantic element. It is also such semantic fields and families of objects that form and "dress" the "idea" Humboldt speaks of. The visible written character might not be a picture in the narrow sense any more, but it usually contains an element that once was a picture in the narrow sense and that still functions as classifier. The classification was formerly based on associations and still creates such associations today. Hence it is an "image" in the mind, not a passive one on a piece of paper, but an active image that strikes you. These visual-psychological and family-resemblance-semantic features are often overlooked. Although they can be said to function merely indirectly, they are vivid in the mind and create images in a wider sense.

Acknowledgments

Many thanks to L.D. Linus and P.J. Ivanhoe for helpful comments.

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— (to appear) "Isolation and Involvement: Wilhelm von Humboldt, François Jullien, and More", *Philosophy East and West*.