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A SEMANTIC STUDY OF THE CLASSIFIER ZHANG *

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1. Introduction

Categorization is a fundamentally important aspect of human cognition, and categorization of some sort is obviously involved in classifier systems. It is not immediately clear, however, if classifier systems are merely arbitrary, overt systems of linguistic categorization without underlying conceptual structures, or if they actually reflect conceptual structures and thus are indicative of human categorization.

For Chinese, Tai and Wang (1990), Tai (1992), and Tai (1994) have demonstrated that the classifiers in the language, to a great extent, reflect human categorization in the culture. Thus, the Chinese classifier system provides a wealth of data for our better understanding of human categorization. Whereas Tai and Wang (1990) investigate the conceptual structure of the classifier *tiao* 条, this paper will examine the conceptual structure of *zhang* 张.

Both *tiao* and *zhang* are shape-based classifiers. While *tiao* is used for long objects, *zhang* is used for flat objects. In terms of geometric abstraction, long objects are extended in one dimension, flat objects in two dimensions, and round objects in three dimensions (cf. Allan 1977). We can go one step further by assuming that the extension in one, two, and three dimensions is the primary cognitive basis for shape classifiers; other cognitive features such as flexibility, rigidity, and discreteness are secondary parameters (cf. Adams and Conklin 1973). On this view, *tiao*, one dimension in extension, is 'primary' among the group of classifiers for long objects that also include *gen* 根 and *zhi* 枝; and *zhang* is 'primary' among the group of Chinese classifiers for flat objects that also include *fu* 幅, *pian* 片, and *mian* 面. In this paper, we will examine the conceptual structures of the *zhang* family of classifiers, focussing on *zhang*, the central member.

Our analysis of *zhang* in this paper is a sequel to Tai and Wang's analysis of *tiao* in this journal. More importantly, our analysis is based on the same theoretical foundation as the earlier study. First, the prototype theory of

categorization is adopted. In this theory, the formation of a category can be achieved through association with the prototypes, and this association can be sanctioned by either perceptual features such as shape and size, or functional features such as those for the categories of furniture and tools. Second, a non-objectivist, experiential view of categorization is assumed. On this view, human experience and imagination play a crucial role in association for the formation of a category. Third, data pertaining to the historical development of classifiers are used for the construction of their conceptual structures.

The remainder of the paper is organized as follows: in section 2, we propose a categorical structure for the classifier *zhang* in the spirit of the prototype theory, but also take into consideration the developmental history of *zhang*; section 3 examines the other members of the *zhang* family, and section 4 concludes the paper.

2. The Categorical Structure of the Classifier *Zhang* 张

Before presenting our analysis of *zhang*, its historical development will be outlined first, based on two main sources. These are the historical data documented by Liu (1965) and Erbaugh's (1985) historical analysis and synthesis of previous works on the development of Chinese classifiers. The word *zhang* was originally a verb meaning 'to draw a bow.' By the Eastern Han dynasty (106 B.C. - 25 A.D.), it had become a classifier first for bows and tents, and then for Chinese zithers, which were made out of bows with strings to be plucked. By the Tang dynasty (618-907 A.D.), its use as a classifier was extended first to paper and then to paintings. By the Song dynasty (960-1117 A.D.), it was further extended for flat things in general, and to tables and flags in particular.

The historical development of *zhang* provides us with a basis for constructing its categorical structure in modern Chinese. In the following, we propose a prototype theory for the classifier *zhang* in the modern language, consisting of the following four subgroups: (1) prototypes consisting of objects with strings to be stretched, such as bows, zithers, and plows; (2) the first extension for spreadable objects, such as nets and tents; (3) the second extension for flat things that can be rolled up, such as paper and skin; and (4) the third extension for objects with flat tops, such as beds and tables.

2.1. *Zhang* as a Verb

As annotated in *Shuowen*, the original meaning of *zhang* was 'to draw a bow.' This verbal meaning of *zhang* can still be discerned from the graph, with 弓 *gong* 'bow' as the semantic component. In modern Chinese, *zhang* continues to be used as a verb with the basic meaning of 'to stretch': *zhang gong* 张弓 'to draw a bow', *zhang wang* 张网 'to spread a net', and *zhang zui* 张嘴 'to open one's mouth.' It also occurs in verb compounds, such as *zhang kai* 张开 'to open.' A careful examination of the history of *zhang* shows that it has never been used as a noun, except in its function as a classifier and as a family name.

It is worth noting that the verbal origin of *zhang* presents a notable exception to the generalization of the nominal origin of classifiers (cf. Denny 1976, Craig 1985, Lee 1988).

2.2. Prototypes of *Zhang*

The historical development of *zhang* indicates that in its inception as a classifier, it was used to refer to objects with stretchable strings. We therefore treat those nouns that refer to stretchable objects as the prototypes in modern Chinese. For example,

1) yi zhang gong	一张弓	'a bow'
yi zhang li	一张犁	'a plow'
yi zhang guqin	一张古琴	'a Chinese zither'

As in drawing a bow, the strings of a plow is stretched in plowing. Similarly, a zither's strings are stretched when plucked in playing. Plucking the strings of a instrument is similar to drawing a bow: both actions involve stretching some strings.

Note that among the stringed musical instruments, only *guqin* 'Chinese zither' uses the classifier *zhang*. For those stringed musical instruments that have a handle, as in the cases of *jita* 吉他 'guitar', *pipa* 琵琶 'plucked string instrument', and *erhu* 二胡 'two-stringed bowed instrument', the classifier *ba* 把 'handle' is used. Clearly, the choice of *ba* reflects the handle as the salient feature for these objects, just as it is for other portable objects with a handle, such as *daozi* 刀子 'knife' and *san* 伞 'umbrella.' By the same token, the classifier *jia* 架 'stand' is used for those musical instruments that is on a stand or rests on one. These include *guzheng* 古筝 '21- or 25- stringed plucked instrument', *yangqin* 洋琴 'dulcimer', and *gangqin* 钢琴 'piano', which are

categorized with *jiqi* 机器 'machine', *feiji* 飞机 'airplane', and other objects on a stand or support. The above provide ample evidence that musical instruments in Chinese are classified according to their salient features, and that these features are localized in a part of the instrument that became salient through human interaction with the instrument.

2.3. First Extension of Zhang

In modern Chinese, *zhang* is also used for objects that are made with ropes or have ropes as a component, and these ropes need to be spread out for these objects to be used. Listed below are some examples.

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|--------------------|-------|----------|
| 2) yi zhang wang | — 张网 | 'a net' |
| yi zhang fan | — 张帆 | 'a sail' |
| yi zhang zhangpeng | — 张帐篷 | 'a tent' |

We treat this group as the first extension of *zhang* from its prototype use in (1) because the objects involved have ropes (rather than strings) that need to be stretched out for the objects to be used. However, objects in this extended group differ from the prototypes in one important respect; namely, they form a flat surface when spread out. The prototype objects stretch out strings between two pivotal points but do not form a flat surface.¹

2.4. Second Extension of Zhang

In modern Chinese, *zhang* are used for thin and flat objects. We treat this use as the second extension of *zhang*. Key examples are given below.

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|---------------------|--------|----------------------------|
| 3) yi zhang doufupi | — 张豆腐皮 | 'a skin of soya-bean milk' |
| yi zhang dabing | — 张大饼 | 'a pancake' |
| yi zhang cipian | — 张磁片 | 'a phonograph record' |
| yi zhang heye | — 张荷叶 | 'a lotus leaf' |
| 4) yi zhang zhi | — 张纸 | 'a sheet of paper' |
| yi zhang hua | — 张画 | 'a painting' |
| yi zhang biantiao | — 张便条 | 'a note' |
| yi zhang biaoge | — 张表格 | 'a form (to fill in)' |
| yi zhang baozhi | — 张报纸 | 'a newspaper' |
| yi zhang youpiao | — 张邮票 | 'a stamp' |

In two respects, members of the second extension are different from those of the first extension. First, they do not have strings or ropes to spread out.

Second, they are thin, with a flat surface as their default natural shape, even though many of them can be rolled up. In contrast, members of the first extension need to be spread out to obtain a flat surface.

We have grouped those thin objects made of paper in (4), with the implication that *zhi* 纸 'paper' could be further construed as the prototype for this group of objects. This means that it is possible to have core members within each layer of the extended category.

It is noteworthy that *dabing* 大饼 'pancake' in Chinese can be a kind of large flatbread as well as a kind of thick cake. The classifier *zhang* is used only for the flatbread; it is not used for the thick cakes, which take the classifier *kuai* 块 'lump.' This difference in usage exists because the salient, conceptual feature of *zhang* is two-dimensionality, whereas that of *kuai* is three-dimensionality. Similarly, while *zhang* is often used for the 5-1/4" *cipian* 磁片 'diskettes', which have a very thin, flat shape, the classifier *kuai* is used for the thicker, bulkier 3-1/2" *cipian*.

A pattern also emerges with the distribution of *zhang* versus *pian* 片 'piece.' With respect to leaves, for example, *zhang* is used with those leaves that are large, such as *heye* 荷叶 'lotus leaf', *zongye* 棕叶 'palm leaf', and *bajiao ye* 芭蕉叶 'banana leaf', while *pian* is used as a classifier for *chaye* 茶叶 'tea leaf', *rongsyuye* 榕树叶 'banyan leaf', and other kinds of leaves that are small in size. For the same reason, while the classifier *zhang* is used for whole sheets of paper, the classifier *pian* is used for small pieces of paper.

2.5. Third Extension of Zhang

The classifier *zhang* is also used for nouns denoting three-dimensional objects with a flat surface on the top. This group of nouns can be exemplified below.

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| 5) yi zhang chuang | — 张床 | 'a bed' |
| yi zhang zhuozhi | — 张桌子 | 'a table' |
| yi zhang yizi | — 张椅子 | 'a chair' |
| yi zhang dengzi | — 张凳子 | 'a stool' |
| yi zhang guitai | — 张柜台 | 'a counter' |

This group can be treated as the third extension of *zhang* from its use for thin and flat objects, which are inherently two-dimensional in configuration. The objects denoted by the group of nouns in (5) are three-dimensional in configuration. However, as the flat tops on which human activities take place

are two-dimensional, the salient perceptual feature picks up the two-dimensionality of their flat surfaces.

It should be noted that *dengzi* 凳子 by itself can mean either 'a stool' or 'a bench.' For a stool, we use the classifier *zhang*, and for a bench, we use *tiao*. The choice of *tiao* for benches indicates that the long shape of a bench is treated as its salient feature and not its flat surface. We do not have an explanation for why, in this case, one-dimensionality overrides two-dimensionality. A different situation holds in the case of *yizi* 椅子 'chair,' which is used with *zhang* as well as the classifier *ba* 把 'handle.' A chair has a back and/or arms for our hands to grasp. The back and arms are thus analogous to the handle of an object. The fact that both *zhang* and *ba* can be used for *yizi* shows that the two salient features in question compete with each other.² Similarly, both *zhang* and *ge* 个 can be used with *shafa* 沙发 'sofa.'

2.6. Zhang for Body Parts

The classifier *zhang* is used for two body parts, *lian* 脸 'face' and *zui* 嘴 'mouth.' For *lian* the choice can be attributed to the flat surface of our face. For *zui* the choice can be understood from the verbal expression *zhang zui* 张嘴 'to open mouth.' The latter use is based on the verbal origin of *zhang* 'to stretch.'

Zhang is also used for *mianju* 面具 'mask' and *zuilian* 嘴脸 'expression.' Since both words are closely associated with the face, this extended use of *zhang* is understandable. The case of *zuilian* further involves metaphorical extension from concrete objects to abstract concepts.

3. Other Members of the Zhang Family

There are many nouns denoting objects with a flat surface, but which do not take *zhang* as their classifier, taking instead, *fu* 幅, *mian* 面, or *pian* 片. In this section, we will examine the distributional pattern of each of these three classifiers with respect to *zhang*.

3.1. The Classifier *Fu* 幅

Consider the following examples:

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| 6) <i>yi fu jinduan</i>
<i>yi fu beimian</i>
<i>yi fu huabu</i> | —幅锦缎
—幅被面
—幅画布 | 'a brocade'
'a quilt cover'
'a canvas' |
| 7) <i>yi fu hua</i>
<i>yi fu huaxiang</i>
<i>yi fu zi</i> | —幅画
—幅画像
—幅字 | 'a painting'
'a portrait'
'a calligraphy' |
| 8) <i>yi fu fanrongde jingxiang</i>
'a flourishing atmosphere'
<i>yi fu dongrende qingjing</i>
'an emotionally-moving scene' | —幅繁荣的景象
—幅动人的情景 | |

The classifier *fu* originated as a noun meaning 'width of cloth.' It was first used as a classifier for cotton and silk textiles and for products made from them, and it was later used for paintings and portraits. These two usages of *fu* as a classifier continue into modern Chinese, as can be seen in (6) and (7). Based on this historical development, we treat the examples in (6) as prototypes, and those in (7) as extended members from the prototypes. This extension is based on the similarity shared by members of both groups, namely, a flat surface with a picture on it. The examples in (8) involve mental pictures and can be treated as metaphorical extensions from (7). In short, the examples in (6) are prototypes, those in (7) natural extensions, and those in (8) metaphorical extensions.

For most of the objects exemplified in (7), *zhang* and *fu* are interchangeable. There is a slight difference for educated careful speakers of modern Chinese, however; for paintings and designs made of cloth or canvas, such as *cixiu* 刺绣 'embroidery' and *youhua* 油画 'oil painting,' *fu* is preferred over *zhang*.

3.2. The Classifier *Mian* 面

The use of the classifier *mian* can be illustrated with the following examples:

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| 9) <i>yi mian jinqi</i>
<i>yi mian jingzi</i> | —面锦旗
—面镜子 | 'a silk banner'
'a mirror' |
|--------------------------------------------------|--------------|-------------------------------|

