

SHAPE-BASED CLASSIFIERS IN HAKKA AND COMPARISON AMONG THREE DIALECTS

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Abstract

In the present paper, firstly, we are going to pin down the features of each shape-based classifier in Hakka; secondly, the corresponding classifiers in Taiwanese and Taiwan Mandarin will be compared. The categorization models used are prototype theory, interaction relation, eight categories of classification and dimension saliency. In Hakka, there are about six classifiers relating to shape as their perceptual basis: *thiao55*, *ki31*, *tsong31*, *tsak2*, *te55* and *liap4*. *thiao55* classifies those objects with long shape, in other words, one-dimensional salient objects. The entities take *ki31* as classifier have the following features: one-dimensional salient, hard or rigid, the feature of root or sticklike part of the entity when it is used. The first kind of entities taking classifier *tsong31* are two-dimensional salient and, on the other hand, are characterized with the function of placement, that means a flat surface to place something. The second type are those which are made from paper. *tsak2* categorizes hollow objects which have function of placement and passing through. “box”, “tire”, “cup” and “teapot” are able to contain things. Moreover, the classifier *tsak2* is on its way becoming a general classifier. These entities taking *te55* as classifier are featured with a flat surface. The kind of spherical entities are classified by *liap4*. As far as the comparison of classifier denoting long-shaped entities among these three dialects is concerned, the feature one-dimensional salient is essential feature in all three dialects. Flexible and rigid/hard are two major distinctive features in all three dialects. The feature root, in our opinions, plays a minor but important roll in Taiwanese and especially in Hakka. As for the entities with saliency two dimensions, two-dimensional salient and paper material are two essential features in all three dialects. Spreading or pulling out to use is a feature to be categorized by *zhang* in Mandarin and *tsong31* in Hakka but that’s not found in Taiwanese. It is found that in every set of classifiers the essential features are almost the same. Their differences lie in distinctive features. The paper is organized as following: section 1 is literature review; in section 2 we investigate shape-based classifiers in Hakka in terms of distinctive feature; section 3 the comparison among three dialects is made; section 4 is conclusion.

1.0 Introduction

According to Lakoff(1987), “to understand how human beings categorize in general, one must at least understand human categorization in the special case of natural language.” The choice of classifier in Chinese is anything but an accident. Through the understanding of classifier, we can get a clear picture of how we categorize nouns. There have been a lot of papers concerning about Chinese classifiers.¹ The present paper

¹ Please refer to references.

focuses on shape-based classifiers in Hakka. The features of each shape-based classifier are going to be figured out. We adopt the categorization model used in Wu (1996), prototype theory, Denny's interaction relation, eight categories of classification proposed by Allan (1977), Tversky and Hemenway (1984) and Pinker (1989)'s dimension saliency. In the first section, these categorization models will be reviewed. In the second section, we are going to investigate semantic features of each shape-classifier. In the third section, the comparison of shape-based classifiers in Taiwan Mandarin, Taiwanese and Hakka is made to have a better understanding.

1.1 Prototype theory

Certain members of a category are more representative than the other members of the category. The most representative members of a category are called "prototypical" members. A noun is classified by comparing with the prototypical members.

1.2 Interaction relation

Denny (1976) suggests that "cross-linguistically, classifiers fall into three basic semantic types, all having to do with human interactions: physical interaction such as handling, functional interaction such as using an object as a vehicle, and social interaction such as interacting appropriately with a human compared to an animal, or a high status person compared to a low status one."

1.3 Eight categories of classification

Based on the seven categories proposed by Allan(1977), Tversky and Hemenway(1984) claims eight categories of classification:

- i. material: the essence of the entities. There are three subcategories: animacy, abstract and verbal nouns, inanimacy.
- ii. shape: dimensional categories (saliently one-dimensional, two-dimensional, and three-dimensional) and non-dimensional categories(prominent curved exterior).
- iii. consistency: flexible, hard or rigid, and non-discrete.
- iv. size: big and small.
- v. location: the location of a noun.
- vi. arrangement: arrangement identify three kinds of objects: I. An object or objects in some specific and non-inherent configuration. II. an object or set of objects in a specific position. III. objects in some kind of specific non-inherent distribution.
- vii. Quanta: Quantity is the basis of categorization.
- viii. Attributes of parts: the categorization is based on one part of the whole body.

1.4 . Dimensional saliency

According to Wu(1996), dimensional saliency could be expressed by x, y, z , three dimensions of an object. ($x > y > z$).

- (i) Typical one-dimensional salient, the proportion of y/x is near 0, and that of z/y is near 1.
- (ii) Typical two-dimensional salient, the proportion of z/y is near 0, and that of y/x is near 1.
- (iii) None salient dimensional, the proportion of z/y is near 1, and that of y/x is near 1.

2.0 Shape-based classifiers in Hakka²

There are about six classifiers relating to shape as their perceptual basis: *thiao55*, *ki31*, *tsong31*, *tsak2*, *te55* and *liap4*. We are going to discuss these classifiers respectively.

2.1 Classifier *thiao55*

thiao55 classifies those objects with long shape, in other words, one-dimensional salient objects.

(1) objects with feature **long**

<i>it2 thiao55</i>	<i>sui²² kong14</i>	a conduit
	<i>phi55 tai22</i>	a leather belt
	<i>so55 e55</i>	a rope
	<i>giu55 thiao55</i>	a fritter of twisted dough
	<i>thu214 si55 mian31 bao55</i>	a loaf of toast
	<i>gieNn31 tshong55</i>	a Chinese sausage
	<i>ngaN55 kao31</i>	a tube of tooth paste
	<i>ne11ku55tai31</i>	a necktie
	<i>bong55 kua31 e55</i>	a cucumber

The long shape characterizes those objects in (1). The proportion of y/x of those objects is near 0, and that of z/y is near 1. This belongs to the type of one-dimensional salient. Those items in (2) are also featured with long shape. And the long feature is the most prominent in shape. Moreover, one can not tell its length without professional measure methods.

(2) objects with feature **long**

<i>it2 thiao55</i>	<i>sien31</i>	a line of thread
	<i>lu22</i>	a road
	<i>kai31 lu22</i>	a street
	<i>ho55 pa22</i>	a river

The use of *thiao55* could be extended to abstract items, such as in (3). According to Liu(1965), the abstract use originated from that fact that ‘matters’ are recorded on the

² The Hakka we investigate here is Tongluo hakka dialect. The informant is 55 years old, female, and she is a teacher in junior high school in Tongluo.

books which is made of bamboo or wood, the shape of bamboo or wood is long and narrow. This kind of abstract use is based on the shape of concrete object: long and narrow bamboo or wood. In this Hakka dialect, *thiao55* follow the abstract use.

(3) abstract items³

<i>it2 thiao55</i>	<i>sin31 bun55</i>	news
	<i>se22 miaNn22</i>	life
	<i>khui31 thing22</i>	regulation

In our data, *thiao55* also classifies animal items, in (4)⁴, that are characterized by long shape. In Tu(1998)'s data, fish is categorized by the classifier *miN55/muiN55*. The tail part of fish is adopted to represent the whole body. Moreover, in Tu's data, "cow" could be classified by *thiao55* in few dialects. That may be explained as that the trunk part of cow is the most salient and important. And the shape of the trunk part is, mostly, long and narrow. However, it is very interesting to find the data that *thiao55* classified animals.

(4) animals

<i>it thiao/miN/mui</i>	<i>ng55 e55</i>	fish
	<i>sa55 ko31</i>	a snake
	<i>mo22 mo22 tshuNn55</i>	a caterpillar

There is one item that we have to be discussed here, "a rubber band". When "a rubber band" is not used, it is loose and a circle. When it is used, it is tense and like a rope. "A rubber band" is classified in the form of being used, in other words, its functional interaction with people play a decisive role in categorization.

2.2 classifier *ki31*

Some of the objects with one-dimensional saliency do not take classifier *thiao55*, instead they take *ki31* as their classifier.

(5)

<i>it2 ki31</i>	<i>fo55 tsai55</i>	a match
	<i>bit2</i>	a pen
	<i>kun22 ne55</i>	a stick
	<i>dang22 e55</i>	a nail
	<i>hiong31</i>	a stick of incense
	<i>tsu22</i>	a bamboo stick
	<i>thien22 fo22 tun31</i>	an electric wire rod
	<i>lap2 tsut4</i>	a candle
	<i>gien55</i>	a cigarette
	<i>kam55 tsa22</i>	a sugarcane
	<i>miaNn55 phai55</i>	a gambling fortune number
	<i>tshiam31</i>	a fortune label

³ In our data, *li55 iu55* (a reason) is classified by *tsak2* not by *thiao55*.

⁴ These items in (4) are also categorized by *miN/muiN55* in Tongluo dialect.

In comparison with these items taking *thiao55* as classifiers in (1), these items in (5) are the same with those items in the part of one-dimensional saliency. But they are different in the categorization of consistency. Those taking *thiao55* are more flexible, while those taking *ki31* are harder and more rigid.

In Taiwan Mandarin, the items with the feature **root** are categorized by *gen*. In Hakka dialect, there is not *gen* classifier. Those items with the feature **root** take *ki31* as classifier.

(6) objects with the feature **root**

<i>it2 ki31</i>	<i>moN55</i>	hair/fur
	<i>thieu55 naN55 moN31</i>	hair
	<i>tsho13</i>	a blade of grass
	<i>tshuNn31</i>	a green onion
	<i>ngaN55 tshi13</i>	a tooth
	<i>su13</i>	a hand
	<i>su55 tsi22 thieu55</i>	a finger
	<i>kiot4</i>	a foot

The original meaning of *ki31* is “branch”. The original meaning of *thiao55* is “twig or the end part of the branch”. Branches develop from the trunks, twigs develop from branches. If *gen*, the classifier with **root** meaning, does not exist, *ki31* is a better choice to cover it because *ki31* is nearer to the root than *thiao55*.

Ki31 also categorizes tools. These tools in (7) functionally interacts people with the long, rigid, part as Wu(1999) observes “the sticklike part that is grasped when using the entity, and the classifier chosen is based on a perception of the shape of that part of the entity.”

(7) tools

<i>it2 ki31</i>	<i>fu22 thieu55</i>	an ax
	<i>tsa31 e55</i>	an umbrella
	<i>tsien22 to55</i>	a pair of scissors
	<i>su22 tien55 ne55</i>	a flashlight
	<i>so22 ba13</i>	a broom
	<i>kiam13</i>	a sword
	<i>tshun22 e55</i>	a gun
	<i>so22 si55</i>	a key

The entities take *ki31* as classifier are characterized by the following features: one-dimensional saliency, hard or rigid, the feature of root or sticklike part of the entity when it is used.

2.3 classifier *tsong31*

The first kind of entities taking classifier *tsong31* are those with two-dimensional salient feature and have the function of placement, that means a flat surface to place something.

(8) objects with feature **flat surface**.

<i>It2 tsong31</i>	<i>tsot2 e55</i>	a table
	<i>ten22 e55</i>	a chair
	<i>pong22 gi55</i>	sofa
	<i>miNn55 tshong55</i>	A bed

Another kind of entities are those which should be spread or pulled out to be used.

(9)⁵ objects with feature **spreading or pulling out to be used**.

<i>it2 tsong31</i>	<i>tsoiu13</i>	a mouth
	<i>bong13 e55</i>	a net

It is not accepted to take “ki” as the classifier of “mouth”.

The second type are those which are made from paper. According to Wu(1996), these entities take *tsong31* as classifier by analogy with “a piece of paper”. In Hakka, the same analogy also exists.

(10) objects **made from paper**

<i>it2 tsong31</i>	<i>tsha31 tan22</i>	a ticket
	<i>bui22 sen31 tsi13</i>	a piece of tissue paper
	<i>tsi31 piao22</i>	a check

2.4 classifier *tsak2*

tsak2 as a shape-based classifier is very particular. Originally, *tsak2* is a classifier for birds and then extends to classify animals.

(11) animals

<i>It2 tsak2</i>	<i>kiou22 e55</i>	a dog
	<i>tsu31 e55</i>	a pig
	<i>kai31 e55</i>	a chicken
	<i>ap2 e55</i>	a duck
	<i>san22 kiou31 tai22</i>	a lizard
	<i>thi22 fu13</i>	a leech
	<i>bu13 gin55</i>	a fly

In Hakka, *tsak2* categorizes hollow objects that have function of placement and passing through. “box”, “tire”, “cup” and “teapot” are able to contain things. “head”, which also takes *tsak2* as a classifier, is also able to contain things, too. The eyes, which are able to see things, the nose, which can breathe in and out air, and the mouth, which are able to eat food, makes “head” function as a container.⁶

⁵ *Lai55*(a plough), which should be pulled out to be used, is not classified by *tsong31*, but by *tsak2* in Tongluo dialect.

⁶ The development from classifying animals to hollow objects is very interesting. Here we do not tend to find out the path of this development.

(10) hollow objects

<i>it2 tsak2</i>	<i>siong31 nge55</i>	a box
	<i>len55 e55</i>	a tire
	<i>su22 tsi22 lap4</i>	a ring
	<i>pui22 e55</i>	a cup
	<i>tsha55 kong31</i>	a teapot
	<i>khuNng22</i>	a hole
	<i>si22</i>	a word
	<i>sin22 toi13 e55</i>	an envelope
	<i>thieu55 naN55</i>	a head

According to Liu(1965), the general use of *tsak2* as a classifier was rarely found by Nanbei Dynasty. After Tang Dynasty, the general use of *tsak2* started to spread, such as “*it zhi chuan*—一隻船(a boat), *yi tsi it zhi*椅子一隻(a chair)”. But in other dialects, we could not find any general use of this classifier. The classifier *tsak2* is on its way becoming a general classifier in Hakka dialect.⁷

2.5 classifier *te55*

These entities taking *te55* as classifier is featured with a flat surface. And the thickness is a decisive factor in this class of categorization because a very thin entity with a flat surface is not categorized by *te55*. It is suggested that the use of *phian31*, in (12), is affected by Mandarin. Our informant uses *se22te55* (small one), but not *phian31* when she heard “a piece of potato chips”. After reminding her that the entity is very thin, then she responds with *phian31*.

(11)

<i>it2 te55</i>	<i>thieu22 fu22</i>	doufu
	<i>tsha55 ku31</i>	a bar of soap
	<i>thian55</i>	farmland
	<i>phan55 ne55</i>	a plate
	<i>tson22 ne55</i>	brick

(12)

<i>It2 phian31</i>	<i>Si31 kua31</i>	a piece of watermelon
	<i>tsoi22 sun55</i>	a piece of lip

2.7 classifier *liap4*

The kind of spherical entities are classified by *liap4*. The volume of entity is not so important in choosing the classifier. The big spherical entity is classified by *tai22* (large) *liap4* and the small one is classified by *se22*(small) *liap4*.

⁷ *Tsak2* seems to be able to replace other classifier in Hakka, that's to say, *tsak2* tends to be a general classifier.

(13)

*It2 liap4**miN13*

a grain of rice

thi22 thieu22

a peanut

long13

an egg

san31

a mountain

liu55 lien55

a durian

po31 li55 tshoiu22

A cabbage

3.0 Comparison

In this section we try to compare shape classifiers in Taiwan Mandarin, Taiwanese and Taiwan Hakka in terms of perceptual basis and semantic field.

3.1 *Zhi, thiao, gen* in Taiwan Mandarin, *ki, tiau* in Taiwanese and *thiao55, ki31* in Hakka

Taiwan Mandarin					Taiwanese					Hakka				
features					features					features				
one-dimensional	flexible	root	Rigid/hard		One-dimensional	flexible	root	Rigid/hard		One-dimensional	flexible	root	Rigid/hard	
saliency					saliency					saliency				
<i>zhi</i>	+	-	-	+	<i>ki</i>	+	-	+	+	<i>ki</i>	+	-	+	+
<i>tiau</i>	+	+	-	-	<i>tiau</i>	+	+	-	-	<i>thiao55</i>	+	+	-	-
<i>Gen</i>	+	-	+	-										

Table I⁸

According to Lien and Wang (1999), *ki* in Taiwanese is almost the union of *zhi* and *gen* in Taiwan Mandarin. Wu (1999) also observes that *ki* in Taiwanese overlaps with the classifier *gen* in Taiwan Mandarin. In Hakka, the similar distribution of *ki31* is found. *Ki31* covers the scope of the entities with “root”. The feature **one-dimensional saliency** is essential feature in all three dialects. **Flexible** and **rigid/hard** are two major distinctive features in all three dialects. The feature **root**, in our opinions, plays a minor but important roll in Taiwanese and especially in Hakka.

⁸ These features are concluded from Wu(1996), Wu(1999) and Lien & Wang(1999).

3.2 *zhang* in Mandarin, *tiuNn* in Taiwanese and *tsong31* in Hakka.

Mandarin				Taiwanese				Hakka			
features				features				features			
Two-dimensional saliency(flat surface)	Spreading or pulling out to use	Paper material		Two-dimensional saliency(flat surface)	Spreading or pulling out to use	Paper material		Two-dimensional saliency(flat surface)	Spreading or pulling out to use	Paper material	
<i>Zhang</i>	+	+	+	<i>tiuN</i>	+	--	+	<i>tsong</i>	+	+	+

Table II

In all three dialects, entities with saliency two dimensions, in other words, a flat surface for placement, and paper material take *zhang/tiuNn/tsong* as classifier. But in Taiwanese, the entity that should be spread or pulled out to use is not categorized by *tiuNn*.⁹ **Two-dimensional salient** and **paper material** are two essential features in all three dialects. **Spreading or pulling out to use** is a feature to be categorized by *zhang* in Taiwan Mandarin and *tsong31* in Hakka but that's not found in Taiwanese.

3.3. *khe,li* in Mandarin, *liap* in Taiwanese and *liap4* in Hakka

Mandarin				Taiwanese				Hakka			
features				features				features			
spherical	big	small		spherical	Big/small			spherical	Big/small		
<i>khe</i>	+	+	-	<i>liap</i>	+	Does not count		<i>liap</i>	+	Does not count	
<i>li</i>	+	-	+								

Table III

In Mandarin, *ke* and *li* are different in the size of the entity. If it is larger, *ke* is preferred, but if it is smaller, *li* is preferred. The size is not the dominant factor to choose *khe* or *li*. However, both in Taiwanese and Hakka there are only one classifier *liap* to cover the entities with **spherical** feature.

3.4 *phian/khuai* in Mandarin, *phiN/te* in Taiwanese and *phian/te/khuai* in Hakka

Mandarin				Taiwanese				Hakka			
features				features				features			
Thickness	flexibility	flat surface	restricted	thickness	flat surface	restricted		thickness	flat surface	restricted	
<i>phian</i>	--	+	--	<i>phiN</i>	--	+	--	<i>phian</i>	--	+	--
<i>khuai</i>	+	--	+	<i>te</i>	+/--	+	+	<i>te</i>	+/--	+	+

Table IV

⁹ The entities that should be spread or pulled out to use take different classifiers in Taiwanese. For example, *bang nga*(net) takes *niaN*, *tshui*(mouth) takes *ki*.

The features thickness and flexibility play important parts in choosing the use of *phian* or *khuai* in Mandarin. But in Taiwanese, the scopes of these two classifiers overlap. The entities with the feature thinness and flexibility could take *te/phiN* as classifier. Take two entities for examples: a piece of chewing gum and a piece of potato chips. On the other hand, in Hakka, there is only one classifier to categorize these kinds of objects. In Taiwanese and Hakka, *te* are used frequently than *phiN* or *phian*. It is more acceptable to say that the semantic scope of *te* is much more larger than that of *phiN* or *phiaNn*. **Thickness** and **flexibility** function as two distinctive features to distinguish *phian* and *khuai* in Mandarin. **Thickness and flat surface** are two major components to be classified by *te* in Hakka and Taiwanese. In Taiwanese, *tua phiaNn e te* (a large area of land) and in Hakka *thai phian* is used to modified grassland.

3.5 *ge* in Mandarin, *e* in Taiwanese and *tsak* in Hakka

According to Wu (1996), *ge* has its own meaning, classifying objects with hollow feature, and also functions as a general classifier to replace another classifier in conversation. *Tsak2* in Hakka has its own meaning and tend to be a general classifier. But in Taiwanese, *e*¹⁰, without its own meaning, mainly functions as a general classifier to replace another classifier which has been used in earlier conversation. There are some reasons that each dialect tends to develop its own general classifier.¹¹ Firstly, to avoid repetition, especially found in conversation. Secondly, people, especially foreigners and children when they are learning Chinese, are not sure to use which classifier. They will choose the “safest” one, that means, the one used the most frequently. Thus, it could be clearly found that the general classifier in these three dialects tend to be the one used the most frequently. Thirdly, it is for the purpose of communication.

4.0 Conclusion

From section 2, we have a clear picture of feature analysis of these shape-based classifiers in Hakka. In section 3, these shape-based classifiers are compared. It is found that in every set of classifiers the essential features are almost the same. Their differences lie in distinctive features. A feature maybe carries the function to distinguish two subset classifiers in one dialect; however, this feature does not have the same function in another dialect. These features are constructed differently in hierarchy. Their highest features are the essential ones, the lower ones are less weak in choosing which classifier to use. And it is very interesting to find out that each dialect has its own general classifier even though some general classifiers are on their ways to be a general classifiers. In order to have a better and insightful understanding of classifier in every dialect, the further study is demanded.

¹⁰ From Chen(1958), there is a general classifier in Southern Min, *ge24*. Its distribution is similar to that of *ge* in Mandarin. We are not sure which dialect of Southern Min is recorded by Chen. But it is believed that there is a classifier tend to be a general classifier in each dialect in Chinese.

¹¹ The ideas are the result of discussion with Professor Tsao in class.

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