Study on dual classifiers ‘shuang’ and ‘dui’ in Chinese by image schema

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Abstract
‘shuang’ and ‘dui’ are synonym dual classifiers in modern Chinese. However when they collocate with NPs, they cannot be interchanged in much situation. In this paper we try to find out the differences between ‘shuang’ and ‘dui’ when they collocate with NPs in a corpus-based way, and then figure out the reason why these differences occur by image schema.

Keywords
shuang, dui, image schema

Introduction
In Chinese, there are two dual classifiers ‘shuang’ and ‘dui’ that often collocate with NPs. Dual classifiers are used to define the quantity of a collective composed of two individuals. For example, shoes are composed of a left shoe and a right shoe. When we define the quantity of shoes as a collective, we should say ‘yi shuang xie’ (a pair of shoes) in Chinese. Though ‘shuang’ and ‘dui’ are synonym classifiers, they cannot be interchanged in much situation from our intuition. For instance, ‘yi shuang xie’ is a right expression, but ‘*yi dui xie’ is not. ‘yi dui fuqi’ (a couple) is right, but ‘*yi shuang fuqi’ is wrong. Some Chinese linguists tried to explain the reason of the difference between the collocation of ‘shuang’ and ‘dui’ by several kinds of views such as diachronic, collocative and cognitive views. Still their analysis has some disadvantages, which drive us to find a better way to explain the difference between the collocation of ‘shuang’ and ‘dui’.

Yuan (2004) proposed that we can analyse and explain the limitation of collocation with NPs of classifiers ‘shuang’(pair), ‘dui’(pair), ‘tao’(set) and ‘fu’(set; pair) by image schema reasonably after he analysed ‘shuang’(two) and ‘liang’(two) in ancient Chinese by one-pair schema and two-halves schema. Therefore, we can try to analyse the difference between the collocation with NPs of ‘shuang’ and ‘dui’ using ONE-PAIR schema and TWO-HALVES schema as well. Accordingly, we have four research questions as below:
1) Which NPs collocate with classifiers ‘shuang’ and ‘dui’ respectively?
2) What are the common features of the NPs collocating with ‘shuang’ and the NPs collocating with ‘dui’ respectively?
3) Which image schemas match with the common features of the NPs collocating with ‘shuang’ and the NPs collocating with ‘dui’ respectively?
4) Which image schemas are motivated by classifiers ‘shuang’ and ‘dui’ respectively?

1 Classifier ‘shuang’ and ‘dui’: a review
In ‘Modern Chinese Dictionary’, classifier ‘shuang’ and ‘dui’ are defined by paraphrase as below:
Shuang: to be used for an object in pair.
Dui: shuang.

In the past, many linguists(LV, ZHANG, CHEN et al) researched on the using rules of dual classifiers. For example, LV described the using rules of ‘shuang’ and ‘dui’ like this: ‘shuang’ is used with NPs which mean eudipleural limbs and organs or objects used in pair; ‘dui’ is used with NPs which mean humans, animals or objects coordinating with each other in sexual, right-and-left or positive-and-negative aspects (LV 1994:175, 444 ).

Nowadays linguists are still keeping on research on ‘shuang’ and ‘dui’. What is different is that they do not focus on describing the surface using rules any more but turn to study the deep reason why ‘shuang’ and ‘dui’ are used in different ways. WANG(2005) investigated the origins and development of ‘shuang’ and ‘dui’ in Chinese history. She concluded that ‘shuang’ emphasises the meaning of ‘to geminate’ and ‘dui’ emphasises the meaning of ‘to pair’ in modern Chinese. SHI(2001) pointed classifiers reflect the feature of Chinese people’s cognitive categorization. So the diachronic study on ‘shuang’ and ‘dui’ is indeed helpful for trace out the feature of Chinese people’s...
categorization, but still we need to study this issue with cognitive aspects. ZONG (2007) researched on the differences in ‘shuang’, ‘dui’ and ‘fu’’s semantic selection of NPs with cognitive aspects such as subjective and objective, normal and abnormal, homogeneity and heterogeneity. In his conclusion, the reason why ‘shuang’ and ‘dui’ emerge the differences when they collocate with NPs is because ‘shuang’ owns stronger subjectivity and ‘dui’ possesses stronger objectivity. ZHANG (2009) analyses this reason by family resemblance. She assumed that relation with limbs and organs is the family resemblance of the NPs collocating with ‘shuang’ and the two features of this family resemblance are naturalness and homogeneity based on this family resemblance. On the other side, she said that the family resemblance of ‘dui’ is cooperation between two objects/humans and in this basis the features of this family resemblance is non-naturalness and unity of opposites.

2 ONE-PAIR & TWO-HALVES schemas

2.1 Image schema theory

It is considered that image schema theory was first put forward in conceptual metaphor theory (Lakoff & Johnson: 1980). Lakoff and Johnson considered that image schema deprives from humans’ experience based on interaction with external world. Johnson (1987) defined image schema as follow: “…… An image schema is a recurring dynamic pattern of our perceptual interactions and motor programs that gives coherence and structure to our experience.” Image schema is basis of conceptual system in that it is a first and pre-conceptual schema concept in humans’ thought. Image schema system is large, multilevel and complicated. Scholars classify image schemas to several classifications according to different standard. According to V. Evans (2006), image schemas can be classified into 8 types: SPACE, CONTAINMENT, LOCOMOTION, BALANCE, FORCE, UNITY/MULTIPLICITY, IDENTITY and EXISTENCE.

2.2 ONE-PAIR & TWO-HALVES schemas

Yuan (2004) raised ‘ONE-PAIR schema’ and ‘TWO-HALVES schema’ which can be respectively motivated by ‘shuang’ and ‘liang’ in ancient Chinese. He analyzed that ‘shuang’ represents uniting two as one pair, which can motivates ONE-PAIR schema; ‘liang’ displays dividing in two, which can motivates TWO-HALVES schema. Image schemas deprive from humans’ interaction and observation. If they separate themselves from such interaction, image schemas would lose the basis of their formation (LIU & LI: 2008). Therefore we can acknowledge the features of ONE-PAIR and TWO-HALVES from the semantic features of ‘shuang’ and ‘liang’. The features are showed in Table 1.

Table 1: Features of ONE-PAIR & TWO-HALVES

<table>
<thead>
<tr>
<th>Image Schema</th>
<th>Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONE-PAIR</td>
<td>• Two parts constitute a whole.</td>
</tr>
<tr>
<td></td>
<td>• It emphasizes cooperation and combination.</td>
</tr>
<tr>
<td>TWO-HALVES</td>
<td>• A whole is divided into two parts.</td>
</tr>
<tr>
<td></td>
<td>• It emphasizes confrontation and division.</td>
</tr>
</tbody>
</table>

According to these features, we can draw both image schemas as below:

Figure 1: ONE-PAIR schema

Figure 2: TWO-HALVES schema

From these pictures, we can add some feature to ONE-PAIR schema and TWO-HALVES schema: two individuals of ONE-PAIR schema can be different; the whole of TWO-HALVES schema is divided equally in two, so these two parts must show identity or similarity.

3 Result and discussion

3.1 Data

To develop our research, we used Modern Chinese Corpus which is established by Chinese National Language Committee. This corpus includes 70,000,000 Chinese characters covering textbooks, newspaper, magazines, books, etc.. There are 1806 sentences with classifier ‘shuang’ and 771 sentences with classifier ‘dui’.

3.2 Result

Zong (2007) classified the NPs collocating with ‘shuang’ and ‘dui’ with five types: human NP, animal NP, body organ NP, concrete thing NP and abstract thing NP. Accordingly we divided the corpus into these 5 parts and tried to find the distribution of the collocation of ‘shuang’ and ‘dui’
with different kinds of NPs. The distribution is showed in Figure 3.

![Figure 3: Distribution of the collocation of 'shuang' & 'dui'](image)

Figure 3 shows that both ‘shuang’ and ‘dui’ collocate with these types of NPs, but they demonstrate different tendency: the percentages of NPs collocating with ‘shuang’ show a huge gap. The highest one is body organ NP (ex. yanjing(eye), shou(hand)), the second concrete thing NP (ex. xie(shoe), kuaizi(chopstick)), the third abstract thing NP (ex. yanshen (eye sight)), the forth human NP (ex. ernv(son and daughter)), and the least is animal NP (which is only hudie(butterfly)).

Comparably, the percentages of NPs collocating with ‘dui’ do not a huge difference like the ones with ‘shuang’. It is showed that the highest is body organ NP (ex. yanjing(eye), chujiao(tentacle)), the second human NP (ex. fuqi(a married couple), xuanshou(player)), the third abstract thing NP (ex. maodun(contradition), guanxi(relationship)), the forth concrete thing NP (ex. erhuan(earring), bei(cup)), and the least is animal NP (ex. niao(bird), gui(turtle)).

Some examples of NPs often collocating with ‘shuang’ and ‘dui’ and their percentage of distribution are demonstrated in Table 2.

<table>
<thead>
<tr>
<th>Type of NP</th>
<th>Often collocating with ‘shuang’</th>
<th>Often collocating with ‘dui’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human NP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fufu</td>
<td>28.74%</td>
<td>0%</td>
</tr>
<tr>
<td>nannv</td>
<td>0.11%</td>
<td>4.8%</td>
</tr>
<tr>
<td>xuanshou(player)</td>
<td>0%</td>
<td>0.91%</td>
</tr>
<tr>
<td>dadang(partner)</td>
<td>0%</td>
<td>0.65%</td>
</tr>
<tr>
<td>Animal NP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yuanyang(mandarin duck)</td>
<td>28.74%</td>
<td>0%</td>
</tr>
<tr>
<td>niao(bird)</td>
<td>0%</td>
<td>0.65%</td>
</tr>
<tr>
<td>hudie(butterfly)</td>
<td>0.11%</td>
<td>0.13%</td>
</tr>
<tr>
<td>Body organ NP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yanjing(eye)</td>
<td>28.74%</td>
<td>6.49%</td>
</tr>
<tr>
<td>shou(hand)</td>
<td>12.24%</td>
<td>2.85%</td>
</tr>
<tr>
<td>jiao(foot)</td>
<td>7.09%</td>
<td>0%</td>
</tr>
<tr>
<td>chibang(wing)</td>
<td>0.39%</td>
<td>1.82%</td>
</tr>
<tr>
<td>chujiao(tentacle)</td>
<td>0%</td>
<td>1.43%</td>
</tr>
<tr>
<td>biantaoi(fonsil)</td>
<td>0%</td>
<td>0.13%</td>
</tr>
<tr>
<td>shenjing(nervus)</td>
<td>0%</td>
<td>2.46%</td>
</tr>
<tr>
<td>rufang(breast, udder)</td>
<td>0.44%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Concrete thing NP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xie (shoe)</td>
<td>17.28%</td>
<td>0.39%</td>
</tr>
<tr>
<td>kuaizi(chopstick)</td>
<td>1.72%</td>
<td>0.39%</td>
</tr>
<tr>
<td>maodun(contradition)</td>
<td>0%</td>
<td>2.98%</td>
</tr>
<tr>
<td>Abstract thing NP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>muguang(eye sight)</td>
<td>1.44%</td>
<td>0%</td>
</tr>
<tr>
<td>fanchou(category)</td>
<td>0%</td>
<td>0.39%</td>
</tr>
</tbody>
</table>

Note: percentage of ‘shuang’’s examples is on the left; percentage of ‘dui’’s is on the right.

As WANG(2005) said, ‘dui’ is usually used to collocate with NPs that mean humans or animals get in pair by sexual aspects, sometimes used with similar humans or objects. She also said that ‘shuang’ is mainly used to collocate with NPs that mean humans or animals’ eudipleural body organs or objects related with humans’ body organs. However Table 2 shows us that ‘dui’ is usually used with NPs that mean humans or animals’ eudipleural body organs, but the difference is that ‘dui’ seems to have tendency to collocate with NPs that express animals’ organs or organs inside.

To further analyzing this difference, we broke down the types of organ NPs. Firstly, we divided them into two typologies: external organ NP and internal NP. Figure 4 tells the distribution of the collocation of ‘shuang’ and ‘dui’ with external

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To further analyzing this difference, we broke down the types of organ NPs. Firstly, we divided them into two typologies: external organ NP and internal NP. Figure 4 tells the distribution of the collocation of ‘shuang’ and ‘dui’ with external
organ NP (ex. yanjing(eye), tui(leg)) and internal organ NP (ex. biantaoti(tonsil)).

Figure 4: Distribution of the collocation of ‘shui’ & ‘dui’ with external organ NP & internal organ NP

‘suang’ shows a high percentage up to 100% when collocating with external organ NPs, while ‘dui’ shows average percentage of collocation with external and internal organ NPs, which is 53.72% and 46.28% respectively. So we can make a conclusion that ‘shuang’ is only used to collocate with external organ NPs. Therefore some NPs such as ‘rufang (breast)’ though exist out of humans’ body cavities; they should be usually covered with clothes in Chinese traditional notion. As a result, we can see a higher percentage of ‘dui’ than that of ‘shuang’ in Table 2.

Although it is demonstrated in Figure 4 that both ‘shuang’ and ‘dui’ are used with external organ NPs, there still exists some differences between them. For example, ‘shou(hand)’ which often collocates with ‘shuang’ is an external organ of humans, but ‘chujiao(tentacle)’ which often collocates with ‘dui’ is the one of animals. As a result, we divided external organ NPs further in two: human’s external organ NP and animal’s external organ NP. Figure 5 shows the distribution of the collocation of ‘shuang’ and ‘dui’ with human’s and animal’s external organ NPs.

Figure 5: Distribution of collocation of ‘shuang’ & ‘dui’ with human’s & animal’s external organ NPs

From Table 3, it is clear that the difference between concrete thing NPs collocating with ‘shuang’ and ‘dui’ is ornament and non-ornament. Ornament implicates non-necessity and humans’ pursue for beauty. Erzhui(earrings) are not necessary but if we want ourselves to look more pretty we might choose to put them on. Similarly, in current age lazhu(candles) are not necessary to use for giving light in dark, but if we put a pair of candles on the table when we date with boyfriend/girlfriend, the atmosphere would become more amazing with help of candles. Some people also take candles as decoration in their house. For Chinese, they tend to use a pair of candles as decoration because Chinese consider symmetry as the most beauty, which can
be observed in some Chinese traditional architecture such as the Forbidden City.

In Figure 6 we can the distribution of the collocation of ‘shuang’ and ‘dui’ collocating with concrete thing NPs. It is very clear that ‘shuang’ has tendency to collocate with non-ornament NPs according to a much higher percentage 99.54% (compared with ornament NPs 0.46%); ‘dui’ tends to collocate with ornament NPs by higher percentage 67.14% (compared with non-ornament NPs 32.86%)

![Figure 6: Distribution of the collocation of ‘shuang’ & ‘dui’ with ornament NPs & non-ornament NPs](image)

### 3.3 Summary on the collocation of ‘shuang’ and ‘dui’ with NPs

Based on the analysis on corpus, we can draw a conclusion as below:

1. Both ‘shuang’ and ‘dui’ collocate with human NPs, animal NPs, body organ NPs, concrete thing NPs and abstract thing NPs.
2. ‘shuang’ tends to collocate with body organ NPs and concrete thing NPs very much. But ‘dui’ doesn’t have any obvious tendency.
3. Both ‘shuang’ and ‘dui’ collocate with body organ NPs, but we usually choose ‘shuang’ if NPs mean humans’ external organs, while we usually choose ‘dui’ if NPs mean animals’ internal organs or humans/animals’ internal organs.
4. Both ‘shuang’ and ‘dui’ collocate with concrete thing NPs, but ‘shuang’ often collocate with non-ornament NPs; ‘dui’ usually collocate with ornament NPs.
5. Both ‘shuang’ and ‘dui’ collocate with abstract thing NPs, but ‘shuang’ only collocate with abstract thing NPs which are extension of humans’ external organs, such as ‘muguang(eye sight)’.

### 3.4 Discussion by image schema theory

#### 3.4.1 ‘shuang’ and TWO-HALVES schema

As we mentioned before, ZHANG (2009) assumed that relation with limbs and organs is the family resemblance of the NPs collocating with ‘shuang’. So we start the discussion of ‘shuang’ with body organ NPs. From the study on corpus, we drew the conclusion that ‘shuang’ tends to collocate with humans’ external organ NPs such as ‘yanjing (eye)’, ‘shou (hand)’ etc.. Firstly, these organs can be treated as a whole for they share the same function. For example, we can walk in that our two legs fulfil their function at the same time. If we lost one leg, then we can’t walk any more. Therefore, the wholeness implicate that two individuals cannot fulfil their function on their own. As a conclusion, we should consider them as a whole at first. Secondly, due to spacial reason, such a whole are divided in two. For instance, eyes are separated by nose, and hands are separated by body. What’s more, the two parts look in the same shape because the whole is divided averagely.

These features match with the features of TWO-HALVES schema. Then we can conclude that classifier ‘shuang’ motivates TWO-HALVES schema. This schema gets developed by metaphor, and then ‘shuang’ begins to collocate with some concrete thing NPs such as ‘xie (shoe)’, ‘shoutao (glove)’ and some abstract thing NPs such as ‘muguang(eye sight)’which can treated as an extension of body organs.

#### 3.4.2 ‘dui’ and ONE-PAIR schema

ZHANG (2009) said that the family resemblance of ‘dui’ is cooperation between two objects/humans and human NPs are the most NPs collocating with ‘dui’ based on this argument. So we begin to discuss ‘dui’ with human NPs such as ‘qinglv (couple)’, xuanshou(player) etc.. At first, these two individuals used to be ones without any relation with each other. For example, before going together, the boy might have no idea of the girl and the girl might have no idea of the boy either. But immediately they got together, a love relation has been established, and then the boy and the girl constituted a whole, and we can call them together ‘qinglv(couple)’.

Other NPs which collocate with ‘dui’ constitute a whole by relation as well. Animals constitute a whole by sexual relation, contradiction by opposite relation, ornaments by people’s pursue of beauty (ex. erhuan(earring)) or extension of love relation(ex1).

Ex1. Zuowei women lian’ai jiannian ri de liwu, wo mai le yi dui qinglv bei.

I bought a pair of love mugs as a present
for our love anniversary.

Because two individuals used to be separated, they can have the same shape or characters or different ones.

So we can see that the features of NPs collocating with ‘dui’ show a mapping with the features of ONE-PAIR schema. Therefore, we can conclude that classifier ‘dui’ can motivate ONE-PAIR schema.

But we also find that image schema can’t explain the reason of conclusion 4) that is mentioned above.

4. Conclusion

By analyzing the corpus the NPs collocating with classifiers ‘shuang’ and ‘dui’, we found that the differences between ‘shuang’ and ‘dui’ when they collocate with NPs.

1) Both ‘shuang’ and ‘dui’ collocate with human NPs, animal NPs, body organ NPs, concrete thing NPs and abstract thing NPs.
2) ‘shuang’ tends to collocate with body organ NPs and concrete thing NPs very much. But ‘dui’ doesn’t have any obvious tendency.
3) Both ‘shuang’ and ‘dui’ collocate with body organ NPs, but we usually choose ‘shuang’ if NPs mean humans’ external organs, while we usually choose ‘dui’ if NPs mean animals’ internal organs or humans/animals’ internal organs.
4) Both ‘shuang’ and ‘dui’ collocate with concrete thing NPs, but ‘shuang’ often collocate with non-ornament NPs; ‘dui’ usually collocate with ornament NPs.
5) Both ‘shuang’ and ‘dui’ collocate with abstract thing NPs, but ‘shuang’ only collocate with abstract thing NPs which are extension of humans’ external organs, such as ‘muguang(eye sight)’.

According to these differences and the features of NPs collocating with ‘shuang’ and ‘dui’ respectively, we drew a conclusion that ‘shuang’ motivates TWO-HALVES schema, and ‘dui’ motivates ONE-PAIR schema. These highly abstractivized schemas can be presented by pictorial schemas will help students to organize discrete collocations of classifiers and NPs and get visual acknowledge of them when they acquire the usage of classifiers ‘shuang’ and ‘dui’.

However, image schema cannot give reasonable explanation to all the differences between ‘shuang’ and ‘dui’, for example, we can’t explain why we usually choose ‘shuang’ if NPs mean humans’ external organs, while we usually choose ‘dui’ if NPs mean animals’ internal organs or humans/animals’ internal organs, which would drive we to find more persuasive method.

References


