

# A Generative Lexicon Perspective to Possessive Relation in Mandarin Chinese

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**Abstract:** This paper investigates possessive relation of *Possessor DE Possessee* construction based on the generative lexicon theory. For possessive relation, it is found that either possessors or possesseees can come from natural types, artifactual types and complex types; the semantic types of possessive relation are different when the possessor and possessee belong to different individual domains; the typicality of qualia roles in possessive relation is constitutive < formal < agentive < telic; qualia structure does not explain all possessive relation; artifactual types and complex types always lead to ambiguity or polysemy respectively; a possessee selects different qualia roles of the possessor. For the extension of the generative lexicon theory, first, some criteria to distinguish natural types from artifactual types are suggested; second, the scope of the constitutive role of qualia structure is enlarged by including a location and its constituents, a period of time and its constituents, and an institution and its members.

**Keywords:** natural, artifactual, complex, possessive relation

## 1. Introduction

Possessive relation is an important topic in linguistics. Zhu (1982) introduced some common relations between a modifier and its head, in which “NP1 (DE) NP2” mainly has the following relations: the modifier is a possessor (*wǒmen de xuéxiào* ‘our school’ | *gōngshè de shēngkǒu* ‘the commune’s animals’), material (*mùtóu fángzi* ‘wooden houses’ | *sùliào kǒudai* ‘plastic bags’), time and location (*zuótiān de bào* ‘yesterday’s newspaper’ | *běijīng de tiānqì* ‘Beijing’s weather’). Lu (2003) further summarizes 17 possessive relations: appellation, ownership, organ, component, material, property, feature, idea, member, deformation, achievement, product, condition, wound, career, landscape, location, and ability.

Based on these important studies, this paper examines one type of possessive relations ‘*Possessor DE Possessee*’ from a different perspective, namely on the basis of the generative lexicon theory (henceforth GLT), which was first proposed in Pustejovsky (1991) and further developed in Pustejovsky (1995), with the goal of capturing the generative nature of lexical creativity and sense extension phenomena. The aims of this paper are to find out the relation between a possessor and its possessee based on GLT, explore univocal, ambiguous and polysemous possessive relations, and improve GLT.

The data of this study are extracted from Sinica Corpus<sup>1</sup> using Chinese word sketch engine<sup>2</sup>, collected online by google and baidu, or provided by informants.

The following sections are arranged as follows. Section 2 introduces GLT and our expansion of it. Section 3 explores the relation between a possessor and its possessee. Section 4 discusses univocal, ambiguous and polysemous possessive relations. Finally, the conclusion and suggestion for future work are summarized in Section 5.

## **2. Generative Lexicon Theory**

### **2.1 Qualia Structure**

Pustejovsky (1995) investigates how lexical items encode semantic information in the qualia structure. There are four roles in a qualia structure, and each is associated with some values: (i) the constitutive role is about the relation between an object and its constituents or parts. Its role values include material, weight, parts and component elements; (ii) the formal role can distinguish the object within a larger domain. Orientation, magnitude, shape, dimensionality, color, and position are its role values; (iii) the telic role is about the purpose and function of the object; (iv) the agentive role describes factors involved in the origin of an object, such as creator, artifact, natural kind, causal chain.

This paper extends the scope of the constitutive role by including a location or a period of time and its constituents, an institution and its member.

### **2.2 Domain of Individuals**

(Pustejovsky 2001, 2006; Pustejovsky & Jezek 2008) separate the domain of individuals into three distinct levels: (i) natural types that direct at the formal and constitutive qualia roles; (ii) artifactual types that refer to telic or agentive roles; (iii) complex types that make references to the relation between types.

Pustejovsky proposes that natural types refer to constitutive or formal role, while artifactual types refer to telic or agentive role. However, this is not an absolute delimitation. Natural types can also have telic and agentive roles. For example, the water we drink has the telic of maintaining our life and is purified through sedimentation, filtration and disinfection. Nevertheless, natural types need to presuppose an event in order to refer to telic or agentive role. For instance, the agentive role of water is not inherent; sedimentation, filtration and disinfection are contextualized event. Artifactual types can have constitutive role and formal role. For example, the constituents of a pen are the nib, the reservoir and the body. A pen has shape and color as well, which is its formal role. Nevertheless, these are just contextual information; only the telic role is inherent, that is, a pen is for writing.

Human activity penetrates almost every corner of life and therefore it is sometimes hard to distinguish natural types from artifactual types. If we trace back a table that is

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<sup>1</sup> <http://db1x.sinica.edu.tw/kiwi/mkiwi/>

<sup>2</sup> <http://158.132.124.36/>

made of wood, we will find that wood is a part of a tree, which is natural. But as the table is man-made and even if its material is natural, we consider it artifactual. Even human beings can be artifactual, such as test-tube babies.

Confronted with the above difficulty of distinguishing natural types and artifactual types, this paper sets the following criteria to differentiate the two types, as complements to Pustejovsky (1995).

(i) Whether an object can originate without human labor

If an object can never come into being without human involvement, then it is not natural. For instance, a table can never exist if no one bothers to make it.

(ii) Whether an Object can Originate in Nature

Examples like *niúnnǎi* ‘milk’, *xiāngjiāo* ‘bananas’, *qíncài* ‘celery’ are objects of nature, even if the bananas we eat are picked from a farm, which are grown by a farmer.

(iii) Time and Location

Time and location are natural, even though the name we use to address certain time or place is artifactual. For example, though *tángcháo* ‘Tang Dynasty’ is established by *lǐyuān* ‘Yuan LI’, it is natural as a period of time in history.

### 3. Relation between Possessor and Possessee

This section instigates the relation between a possessor and its possessee.

#### 3.1 Generative Lexicon Perspective

This section describes possessive relation from a generative lexicon perspective. Firstly, the qualia role that is in use between a possessor and its possessee is examined. Then we figure out the possible semantic types of combination between them according to the domain of individuals, namely natural types, artifactual types and complex types.

##### 3.1.1 Possessee as a Constitutive Role of Poessor

In a possessive relation, a possessee typically acts as a constitutive role of their possessor. The following part examines the subtypes of the constitutive role in possessive relations and the semantic types of the possessor and possessee combination.

###### 3.1.1.1 Possessive Relations with Possessors from Natural Types

When a possessor belongs to natural types, its possessee can be from natural types, artifactual types or complex types. Therefore there are three types of collocations: *Natural DE Natural*, *Natural DE Artifactual*, and *Natural DE Complex*.

(i) *Natural DE Natural*

When a possessor and its possessee both belong to natural types, the possessee is usually an integral part or pieces of it. For instance, when a possessor is non-sentient, e.g.

a natural object, location, time, some possessive relations are as follows: *Natural DE Constituents*: *shāmò de fēngshā* ‘a desert’s sand’, *shèngxià de yángguāng* ‘midsummer’s sunshine’; *Location DE Natural*: *qīngzhōu de mìtáo* ‘Qingzhou’s nectarines’, *shāndōng de tàishān* ‘Shandong’s Tai Mountain’; *Time DE Natural*: *2002 nián de xuě* ‘snow of the year 2002’, *qīngcháo de huángdì* ‘the Qing Dynasty’s emperors’. When a possessor is sentient, the possessee is usually a part of it, e.g. *Sentient Possessor DE Constituents*: *rén de xìbāo* ‘human cells’, *huángfēng de chìbǎng* ‘a hornet’s wings’.

(ii) *Natural DE Artifactual*

This construction can have the following subtypes: *Sentient Possessor DE Artifact*: *xiǎogǒu de wō* ‘a puppy’s nest’; *Location DE Artifact*: *zhōucūn de shāobing* ‘Zhoucun’s biscuits’; *Time DE Event*: *qīmò de kǎoshì* ‘final exams’.

(iii) *Natural DE Complex*

These subtypes are possible for this construction: *Human DE Complex*: *liúchuánzhì de liánxiǎng* ‘LIU Chuanzhi’s Lenovo’, *Location DE Complex*: *gǔlàngyǔ de yīnyuèhuì* ‘Gulangyu’s concerts’ and *Time DE Complex*: *qùnián de xìn* ‘last year’s letters’.

### 3.1.1.2 Possessive Relations with Possessors from Artifactual Types

When a possessor comes from natural types, the possessee can be natural types, artifactual types or complex types, so there are three kinds of construction: *Artifactual DE Natural*, *Artifactual DE Artifactual*, and *Artifactual DE Complex*.

(i) *Artifactual DE Natural*

The subtypes of this construction include: *Artifact DE Constituent*: *xiāngyān de nígǔdīng* ‘cigarettes’ nicotine’; *Organization DE Member*: *gōngchǎng de gōngrén* ‘a factory’s workers’, *yánjiūsuǒ de yánjiūyuán* ‘an institute’s researchers’.

(ii) *Artifactual DE Artifactual*

This kind of possessive relation is very large and has several subtypes. When the possessee is an integral part of the possessor, examples are *shuíjiǎo de xiàn’ér* ‘dumpling’s stuffing’, *chéngbǎo de chéngqiáng* ‘a castle’s walls’, *bōli de suìpiàn* ‘pieces of the glass’, *shèyǐngjī de yíngmù* ‘a video camera’s screen’. When the possessee is things of a place, an example is *zhōucūn de shāobing* ‘Zhoucun’s biscuits’.

(iii) *Artifactual DE Complex*

An instance of this construction is *dàlóu de chuānghu* ‘a building’s windows’.

### 3.1.1.3 Possessive Relations with Possessors from Complex Types

If a possessor falls into a complex type, the possessee can be from natural, artifactual or complex types. Thus their combinations include: *Complex DE Natural*, *Complex DE Artifactual*, and *Complex DE Complex*.

(i) *Complex DE Natural*

An example of this construction is *zǎocān de niúǎi* ‘breakfast’s milk’.

(ii) *Complex DE Artifactual*

Some examples are *yǎnchànghuì de yīnyuè* ‘a concert’s music’, *bàozhǐ de wénzì* ‘a newspaper’s characters’, *màidāngláo de shèbèi* ‘McDonald’s devices’.

(iii) *Complex DE Complex*

In this construction, both the possessor and possessee are complex types. For instance, *yǎnjiǎng* is event-info, *bǐjì* is physo-info, and *yǎnjiǎng de bǐjì* ‘a speech’s notes’ is a case in point.

### 3.1.2 Possessee is a Formal Role of Possessor

A possessee can function as a formal role of its possessor, and the possible combinations and examples are *Natural DE Natural*: *niúpí de tánxìng* ‘cowhide’s elasticity’; *Artifactual DE Natural*: *bōli de yánsè* ‘the color of the glass’, *dàlóu de wàiguān* ‘the appearance of a building’; *Complex DE Natural*: *bàozhǐ de chǐcùn* ‘a newspaper’s size’, *chá de wèidào* ‘tea’s taste’, *báigōng de wèizhi* ‘the White House’s position’.

### 3.1.3 Possessor or Possessee is an Agentive Role

Possesseees can be an agentive role of possessors, indicating the origin or coming about. For example, *Natural DE Natural*: *tā de māma* ‘his mother’, *hǎi de shēngyīn* ‘sea’s sound’; *Artifactual DE Natural*: *gōngchǎng de zàoyīn* ‘a factory’s noise’.

## 3.2 Other Relations between Possessor and Possessee

Besides the relations that can be accounted for using GLT, there are some other relations between a possessor and its possesseees. For instance, three types of such relations are: (i) the possessor is a human, and the possessee is his/her property. For instance, *Natural DE Artifactual*: *nǚshēng de liúhǎi* ‘girls’ bangs’, *xiǎolǐ de běntián* ‘Xiao Li’s Honda’; (ii) the possessor is human, and the possessee is his/her idea. For example, *Natural DE Artifactual*: *tā de yìjiàn* ‘his views’; (iii) the possessee is time or location, and the possessee is part of it. For instance, *Natural DE Natural*: *gōngzhǔ de shēngrì* ‘a princess’ birthday’, *fùqīn de jiāxiāng* ‘father’s hometown’.

The above analysis is summarized in Table 1.

**Table 1:** Relation between Possessor and Possessee

Possessor	Possessee		
	Natural	Artifactual	Complex
Natural	constitutive, formal, time, location	time, location, property, idea, social relation	constitutive
Artifactual	constitutive, formal	constitutive	constitutive
Complex	constitutive, formal	constitutive	constitutive

Table 1 illustrates the following facts for the *Possessor DE Possessee* construction.

First, either possessors or possesseees can belong to natural types, artifactual types and complex types.

Second, when a possessor belongs to the natural type, its natural type possessee can be a constitutive role, a formal role, time or a location of it; its artifactual type possessee can be time, a location, a property, an idea, or social relation of it; its complex type possessee usually serves as a constitutive role.

Third, when a possessor is from artifactual types or complex types, its natural type possessee can be a constitutive role or formal role of it; its artifactual type and complex type possessee are usually the constitutive role of it.

Fourth, a possessee most typically takes a constitutive role, followed by a formal role. The agentive role is sometimes used and telic role is rarely used. Therefore the qualia structure hierarchy for possesseees in possessive relation is depicted below:

constitutive < formal < agentive < telic

Fifth, qualia structure cannot explain all possessive relations. For example, when time, location, property, or social relation serves as possesseees, they are not qualia roles.

## 4. Univocal, Ambiguous and Polysemous Possessive Relations

### 4.1 Univocal Possessive Relations

The *Possessor DE Possessee* construction can be univocal. For instance, when the possessee is an integral part or pieces of the possessor, e.g. *jīnyú de wěiba* ‘the tail of a goldfish’ and *bōli de suìpiàn* ‘pieces of the glass’, a formal role of the possessor, e.g. *xuéxiào de wèizhi* ‘the location of the school’, or possessive relation is about social relation, e.g. *xiǎomíng de jiěfu* ‘Xiaoming’s brother-in-law’, the *Possessor DE Possessee* construction has only one meaning.

### 4.2 Ambiguous and Polysemous Possessive Relations

If an artifactual type has two or more senses, it can be ambiguous. A complex type has more than one meaning facet, and it is polysemous. A word with two or more meaning facets is a dot object.

When an ambiguous artifactual type or a polysemous complex type acts as a possessor or possessee, possessive relation collocation can have two or more explanations. Sometimes all the explanations are acceptable and sometimes only one is acceptable. The following section shows what explanation is reached when the possessor, possessee, or both of them, are ambiguous or polysemous.

#### 4.2.1 Possessive Relation with an Ambiguous or Polysemous Possessor

This part explores the meaning when the possessor is ambiguous and polysemous.

#### 4.2.1.1 Possessive Relation with an Ambiguous Possessor

When the possessor has more than more senses, and the possessee has only one sense, usually only one sense of the possessor will be activated. For example, *xiàngqí* ‘chesses’ has two senses: physical objects or an event.

(1) a. *yībān gāodàng xiàngqí yóu guìzhòng mùcái huò yùshí zhìchéng.*  
(physical object)

generally high-grade chess from valuable wood or jade make

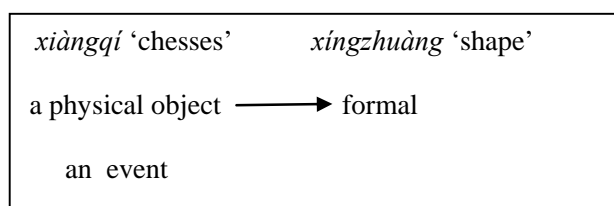
‘Generally high-grade chesses are made of valuable wood or jade.’

b. *jìnniánlái, měiguó wán xiàngqí de rén yuèláiyuèduō.* (event)

recent years America play chess DE people more and more

‘Recent years in America, more and more people play chess.’

In *Artifactual DE Natural* construction, such as *xiàngqí de xíngzhuàng* ‘’, only the ‘physical objects’ sense of *xiàngqí* ‘chesses’ is activated, as illustrated below.

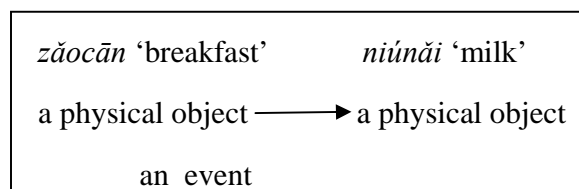


#### 4.2.1.2 Possessive Relation with a Polysemous Possessor

When the possessor has more than one meaning facet while the possessee is univocal, the possessee will activate one meaning facet of the possessor. The following shows examples in *Complex DE Natural* and *Complex DE Artifactual* constructions.

(i) *Complex DE Natural*

*zǎocān* ‘breakfast’ is a dot object (event · physical oobject). In *zǎocān de niúnnǎi* ‘breakfast’s milk’, the ‘physical object’ aspect is exploited.



(ii) *Complex DE Artifactual*

*yǎnchànghuì* ‘a concert’, as a dot object, can refer to an event or music. For instance:

(2) a. *nánfēi shìjièbēi guānfāng yǎnchànghuì xiānqǐ xiànchǎng yī*  
 South Africa the World Cup official concert lift on-site a  
*piàn gāocháo*。 (event)

CL climax

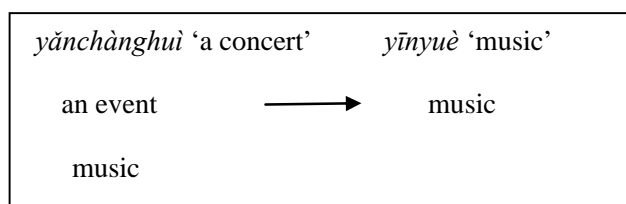
‘The official concert of the World Cup in South Africa lifted an on-site climax.’

b. *yǎnchànghuì chāo hǎo tīng*。 (music)

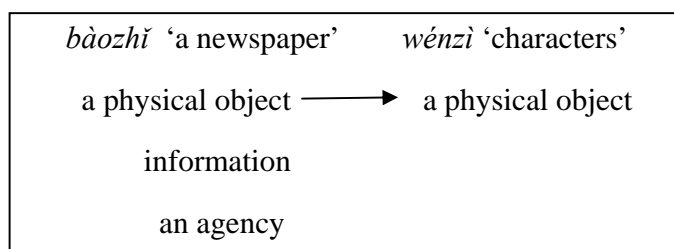
concert super pleasant hear

‘The concert is fantastic.’

In *yǎnchànghuì de yīnyuè*, *yǎnchànghuì* is pointing to the event.



Similarly, *bàozhǐ* can mean information, physical object or agency. In *bàozhǐ de wénzì* ‘a newspaper’s characters’, only the ‘physical object’ aspect is reasonable.



#### 4.2.2 Possessive Relation with an Ambiguous or Polysemous Possessee

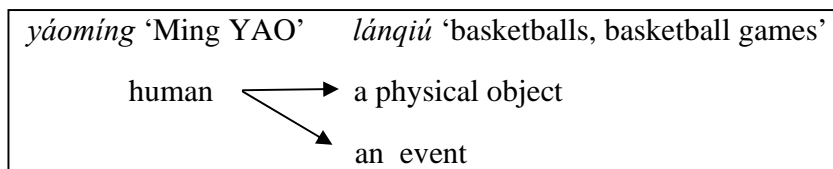
When the possessee is ambiguous or polysemous, the possessor usually activates one sense or one meaning facet of it in a possessive relation.

##### 4.2.2.1 Possessive Relation with an Ambiguous Possessee

If the possessee is ambiguous, while the possessor has univocal, the *Possessor DE Possessee* construction can have more than one explanation. Here we give an example in the *Natural DE Artifactual* construction.

###### (i) *Natural DE Artifactual*

*lánqiú* is from the artifactual type and is ambiguous with two senses: a physical object; an event. When the possessee *lánqiú* is a physical object, *yáomíng de lánqiú* means the basketball that Ming YAO owns. When *lánqiú* is an event, *yáomíng de lánqiú* means the ability of Ming YAO playing basketball.



#### 4.2.2.2 Possessive Relation with a Polysemous Possessee

When the possessee is a dot object with more than one meaning facet, the he *Possessor DE Possessee* construction can also have more than one explanation. Here we look at two constructions: *Natural DE Complex* and *Artifactual DE Complex*.

##### (i) *Natural DE Complex*

*liánxiǎng* has two meaning facets: producer · product. In *Liǔ chuánzhì de liánxiǎng* ‘’, *liánxiǎng* ‘’ can refer to any facet; thus this collocation has two explanations.

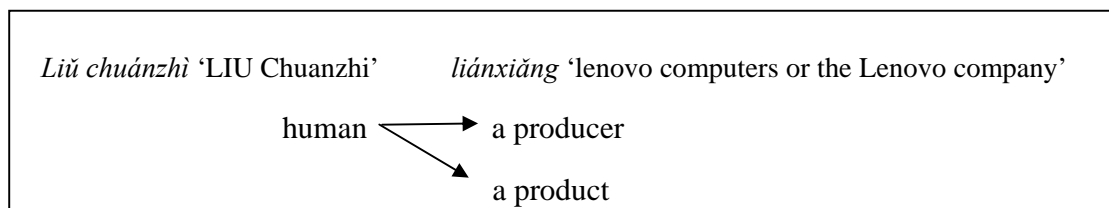
- (3) a. *cóng 1984 nián liánxiǎng chénglì zhì 1997 nián Liǔ chuánzhì de*  
 from 1984 year Lenovo establishment till 1997 year Chuanzhi LIU DE  
*liánxiǎng chéngxíng, 1997 nián juéduì shì liánxiǎng fāzhǎn lìshǐ*  
 Lenovo come into shape, 1997 year definitely is Lenovo development history  
*shàng de zhòngdà zhuǎnzhé.* (producer)  
 on DE major turning point

‘From the establishment of Lenovo in 1984 to the coming into shape of Chuanzhi LIU’s Lenovo, the year 1997 is definitely a major turning point in Lenovo’s development history.’

- b. *Liǔ chuánzhì de liánxiǎng fàngzài zhuō shàng.* (product)

Chuanzhi LIU DE Lenovo put table on

‘Chuanzhi LIU’s Lenovo is on the table.’



(ii) *Artifactual DE Complex*

*chuānghu* ‘a window’ is a complementary polysemous word, making reference to a physical object or an aperture. *dàlóu de chuānghu* ‘a building’s window’ has two meanings as shown below.

- (4) a. *sān rén lìjī chuānguò dàlóu de chuānghu, zhí fēixiàng le tiānkōng*。 (aperture)

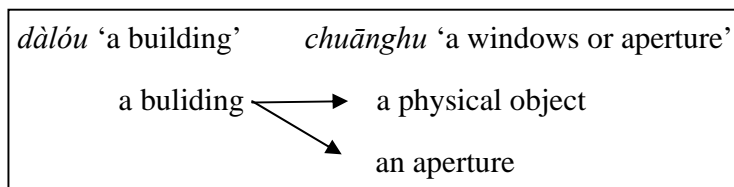
ASP sky

‘The three people immediately went through the building’s window, and directly flew to the sky.’

- b. *dàlóu de chuānghu búhuì cā yīcì jiù gānjìng*。 (physical object)

building DE window cannot wipe once at once clean

‘The windows of the building can not be clean just by wiping once.’



#### 4.2.3 Possessive Relation with a Polysemous Possessor and Polysemous Possessee

If the possessor and the possessee are both polysemous, that is, they are both from complex types, the meaning of possessive relation *Complex DE Complex* has four possibilities. For example, in *báigōng de mén* ‘the White House’s doors’, both *báigōng* ‘the White House’ and *mén* ‘doors’ are dot objects: the former is a building or government, while the latter can be or physical objects or apertures.

- (5) a. *dāngjīn shìjiè shàng, bǐ báigōng piàoliang de duō de zhùzhái, bùzhī yǒu duōshǎo*。 (building)

house, do not know have how many

‘On today’s world, no one knows how many houses are more beautiful than the White House.’

b. báigōng xuānbù jiānádà zǒnglǐ jiāngyú yuèdǐ fǎngměi。  
(government)

White House announce Canada Prime Minister will the end of this month visit USA

‘The White House announced that Canadian Prime Minister will visit the United States at the end of this month.’

(6) a. wǒ hū tīngjiàn yǒurén zài mén shàng qiāo le liǎng shēng。 (physical object)

I suddenly hear someone in door on knock ASP two sound

‘I suddenly heard someone knock at the door twice.’

b. wǒmen chū le nà gè mén, wǎng yòubian yī zhuǎn, jiù kàndào

we go out ASP that CL door, towards right one turn, at once see

chēzhàn le。 (aperture)

station ASP

‘We went out of that door, turned right, and saw the station.’

*báigōng de mén* ‘’ can have four combinations: building DE physo, building DE aperture, government DE physo, government DE aperture. To be a correct construction, *báigōng* ‘’ in *báigōng de mén* ‘’ can only be a building; *mén* ‘’ can mean a physical object or an aperture. Therefore only the former two collocations are right.

(7) a. báigōng de mén xiàng nán kāi。 (building DE physo)

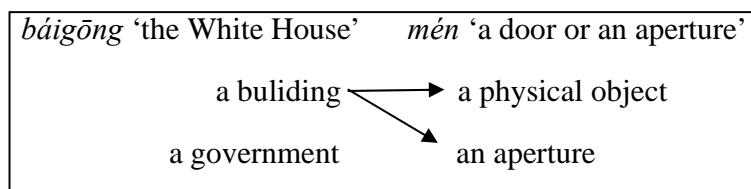
the White House DE door towards south open

‘The White House’s doors are open to the south.’

b. tā cóng báigōng de hòu mén chūlái。 (building DE aperture)

he from the White House DE back door come out

‘He came out from the back door of the White House.’



In sum, when a possessor is ambiguous or polysemous, while its possessee is univocal, the *Possessor DE Possessee* construction usually has only one possible

explanation. This is because the possessee selects a qualia role from the qualia structure of the possessor. When a possessee is ambiguous or polysemous, while its possessor is univocal, the *Possessor DE Possessee* construction will have more than one explanation. This is because the possessee selects different qualia roles of the possessor. When both the possessor and the possessee are polysemous, possessive relation has four possible explanations depending on which qualia role of the possessor is selected by the possessee.

## 5. Conclusion and Future Work

Through the above analysis, we have the following findings.

For possessive relation, it is found that either possessors or possesseees can come from natural types, artifactual types and complex types; the semantic types of possessive relation is different when the possessor and possessee belong to different individual domains; the typicality of qualia roles in possessive relation is constitutive < formal < agentive < telic; qualia structure does not explain all possessive relation; artifactual types and complex types always lead to ambiguity or polysemy respectively; a possessee is selecting different qualia roles of the possessor.

For the extension of the generative lexicon theory, first, some criteria to distinguish natural types from artifactual types are suggest; second, the scope of the constitutive role of qualia structure is enlarged by including a location and its constituents, a period of time and its constituents, and an institution and its member.

Besides possessive relation *Possessor DE Possessee* discussed in this paper, in Mandarin Chinese, *Possessor + Possessee*, *yǒu* 'have', *shǔyú* 'belong to' *et al* can also demonstrate possessive relation. For future research, these constructions need to be investigated in order to gain an overall view of possessive relation.

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## References

- [1] Lu, Jianming. 2003. *A Course on Modern Chinese Grammar* (现代汉语语法研究教程). Beijing: Peking University Press.
- [2] Pustejovsky, James. 1991. The generative lexicon. *Computational Linguistics* 17 (4).409-441.
- [3] Pustejovsky, James. 1995. *The Generative Lexicon*. Cambridge, MA: MIT Press.
- [4] Pustejovsky, James. 2001. *Construction and the Logic of Concepts*. The Language of Word Meaning, ed. by Pierrette Bouillon & F. Busa, 91-123: Cambridge University Press.
- [5] Pustejovsky, James. 2006. Type theory and lexical decomposition. *Journal of Cognitive Science* 6.39-76.

- [6] Pustejovsky, James & Elisabetta Jezek. 2008. Semantic Coercion in Language: Beyond Distributional Analysis. *Distributional Models of the Lexicon in Linguistics and Cognitive Science, special issue of Italian Journal of Linguistics/Rivista di Linguistica*.
- [7] Zhu, Dexi. 1982. *Grammar Handouts (语法讲义)*. Beijing: The Commercial Press.