DOI: http://dx.doi.org/10.31513/linguistica.2019.v21n2a28499
Recebido em: 30 de julho de 2019 | Aceito em: 19 de setembro de 2019

IDENTIFYING WORD CATEGORIES IN MANDARIN CHINESE WITH CONSTRUCTIONAL APPROACH

IDENTIFICANDO CATEGORIAS DE PALAVRAS EM MANDARIM A PARTIR DA ABORDAGEM CONSTRUCIONAL

Ziming Lu[1]

ABSTRACT

Ge as a classifier in Mandarin Chinese is typically followed by nouns. In the post-verbal position, *ge* is found to co-occur with prototypically non-nominal elements and the function of *ge* is unclear. This paper adopts a constructional approach to identify the word categories of the elements following *ge* in the post-verbal position. Instead of focusing on the elements in question alone, the constructions in which the elements occur are also taken into consideration. Within specific constructions, the elements following *ge* demonstrate variation in their grammatical behaviour. Their grammatical categories are determined by the constructions they occur in, not the preceding *ge*. In addition, within the Construction Grammar framework, the function of the post-verbal *ge* in these constructions is defined.

KEYWORDS: word category; Construction Grammar; Mandarin Chinese; ge.

RESUMO

Ge como classificador em mandarim é tipicamente seguido por substantivos. Na posição pós-verbal, constata-se que *ge* co-ocorre com elementos prototipicamente não nominais e a função de *ge* não é clara. Este artigo adota uma abordagem construcional para identificar as categorias de palavras dos elementos que seguem *ge* na posição pós-verbal. Em vez de focar apenas nos elementos em questão, as construções nas quais os elementos ocorrem também

1 PhD in Linguistics, University of Edinburgh. Postdoctoral researcher of Zhejiang University (China). ziminglu@hotmail.com.

são levadas em consideração. Dentro de construções específicas, os elementos que seguem *ge* demonstram variação em seu comportamento gramatical. Suas categorias gramaticais são determinadas pelas construções em que ocorrem, não pela forma precedente *ge*. Além disso, dentro do modelo da Gramática de Construções, é definida a função de *ge* pós-verbal nessas construções.

PALAVRAS-CHAVE: categoria de palavra; Gramática de Construções; mandarim; *ge*

1. Introduction

In Mandarin Chinese, the numeral is not in the direct constituent with a noun. It requires a nominal classifier before joining a noun as in (1.1):

(1.1) a. 三　张　　桌子
san zhang zhuozi
three CL table
three tables

b. 两　　个 人
liang ge ren
two CL person
two persons

The main functions of classifiers are to individualize and categorize the entity denoted by the following noun and enable numeral attachment. In (1.1a), the classifier **zhang** is called a specialized classifier following Myers' (2000) terminology, which commonly co-occurs with nouns referring to the entities with a flat surface, such as tables and paper. On the contrary, in (1.1b), *ge* does not have obvious collocational preference with nouns and it can be used with most nouns if not all. Thus, it is widely considered as a general classifier (Li and Thompson 1981, Zhu 1982, Lü 1984).

In the post-verbal position, when the numeral before *ge* is *yi* 'one', the numeral tends to be omitted. The 'bare *ge*' in the post-verbal position is found in various distributions, three of which are illustrated in (1.2):

(1.2) a. 他　吃　了　　个　苹果。
ta chi le ge pingguo
he eat ASP GE apple.
He ate an apple.

b. 我 带 了 点 鹅肝 饼。 来，
wo *dai* *le* *dian* *egan* *bing.* *Lai,*
I bring ASP little goose.liver pancake. Come,
咱们 尝 个 新鲜。
zanmen chang ge xinxian.
we taste GE fresh.

I have brought some goose liver pancakes. Come, let's taste them.

c. 我 请 你 去 那里 吃 个 饱。
wo *qing* *ni* *qu* *nali* *chi* ge bao
I invite you go there eat GE full

I'll treat you a meal there and you can eat as much as you can.

In (1.2a), similar to (1.1b), the bare *ge* in the post-verbal position is followed by a referential and countable noun referring to an indefinite entity. In (1.2b), *ge* is followed by the word *xinxian* 'fresh' indicating a property, which is prototypically categorized as an adjective. In (1.2c), the element following *ge* is an adjective and encodes additional information to the action designated by the preceding verb.

As exemplified in (1.1), a classifier collocates with nominals referring to entities. In (1.2b) and (1.2c), the words following *ge* are prototypically not categorized as nouns, but function as modifier or predicate. *Ge* in (1.1b) and (1.2a) is recognized as classifier in Chinese but the debate about the functions of *ge* in (1.2b) and (1.2c) is still ongoing. Some researchers believe that *ge* in the instances like (1.2b) and (1.2c) is still a classifier indicating singular quantitative meaning and the following elements are converted to nominals by *ge* (Zhao 1979, Zhu 1982, Shang 2009). Similarly, some linguists argue that the post-verbal *ge* in these special instances is an object marker, which marks non-nominal elements following *ge* as the object of the preceding verb (Wu 1982, You 1983, Song 1993, Shi and Lei 2004, Wu 2004). They believe that object-marker *ge* is a grammatical extension of its classifier function. By nominalizing the following elements, *ge* makes the event designated by the preceding verb bounded and discrete. Both arguments agree that the post-verbal *ge* nominalizes the following non-nominal elements. In other words, these two proposals are built on the assumption that the elements following *ge* are derived nominals, despite their prototypical categories.

There are linguists holding the opposite opinion and suspecting the nominal property of the elements following *ge*. Lü (1984) agrees that the elements following *ge* are in the object position of the preceding verb and semantically they denote nominal meanings in this position. But he points that these elements remain in their original categories and are not nominalized. They need to co-occur with *ge* by analogy with nominal objects in order to mark their special object role. You (1983), Wu (1982) and Song (1993) also agree that the elements following *ge* as in (1.2b) and (1.2c) are not nominal, but they think *ge*, similar to 得 *de*, is a non-object

complement (secondary predicate) marker as in (1.3):

(1.3) a. 他 把 衣服 洗 个 干净。
ta *ba* *yifu* *xi* *ge* *ganjing*
he BA clothes wash GE clean
He washed the clothes till clean.

b. 他 把 衣服 洗 得 干净。
ta *ba* *yifu* *xi* *de* *ganjing*
he BA clothes wash DE clean
He washed the clothes clean.

The disagreement about the function of *ge* primarily lies in categorization of the elements following *ge* in this structure. Thus, before taking stance among these arguments, it is necessary to investigate the word category of the elements following *ge*.

Formalists traditionally define word classes by distributional approach, to find a distributional property that the category is assigned (Aarts 2004, Croft 2007). The linguists who take the position that *ge* is a nominalizer typically adopt this approach. They believe, the fact that the words occur in the post-verbal position preceded by *ge* is sufficient to assign the words to the category of nominals. On the other hand, cognitive grammarians advocate that word categories are defined by their semantic basis: nouns instantiate THINGS; Verbs designates PROCESS; Adjectives and Adverbs profile atemporal RELATIONS (Langacker 1987a: 189). In (1.2b), (1.2c) and (1.3a), the words following *ge* designate properties, which are, in Langacker's words, atemporal relations. In this sense, they are more adjectival than nominal. These two approaches in fact display a mismatch between form and meaning in these instances but neither approach gives us a convincing conclusion regarding the category of the words following *ge*. Is it possible to combine both approaches in order to solve the problem? The answer is yes. Croft (2001: 55) points that "no schematic syntactic category is ever an independent unit of grammatical representation", and the basic units of grammatical representation are the syntactic structures and their meanings, i.e. constructions (Croft 2001: 14). Construction grammar handles grammar from a different perspective from the "traditional" view of words, categories and syntactic structures. It stresses the importance of generalizations with focus on both form and meaning. Speakers identify similarities across expressions in their language using experience and make generalizations. These generalizations that represent speakers' linguistic knowledge are constructions. Word categories are definable by constructions (Croft 2001, Hilpert 2014).

With a constructional approach, this paper aims to investigate the grammatical categories of the elements following the post-verbal *ge*, integrating both formal and functional perspectives. Moreover, previous work has intuitively assumed *ge* and its following expressions as direct constituent and tackled the problem with the focus on the justification of the presence of *ge* preceding non-nominal expressions. This research proposes a solution that brings a larger

context of the occurrence of *ge* into consideration, and therefore *ge* and its following expressions are studied in a different construction.

This paper is structured as follows. Section 2 summarizes the previous research that advocates *ge* functions as nominalizer in post-verbal position. Section 3 demonstrates that there is not enough evidence to prove the expressions following *ge* are nominals and Section 4 demonstrates how constructional approach helps to identify the categories of the elements following *ge* and proposes a different function of *ge*. Section 5 summarizes the results found in this research.

2. Ge in [V *ge* X] as a nominalizer

Shang (2009) tries to find the links between the classifier *ge* and its other special functions and organize these functions under one category. He compared expressions of normal verb-object structure and V+ *ge* + VP structure, and he noticed that these two types of expressions differ in terms of temporal meaning.

(2.1) a. 自 古 英雄 爱 美人。
zi gu yingxiong ai meiren
from old hero love beauty
Heroes always love beauties.

b. 我 就 想 爱 个 当 解放军 的 女婿。
wo jiu xiang ai ge dang jiefangjun de nüxu
I just want love GE_{cl} COP soldier ASSOC husband
I just want to find a soldier to be my husband.

c. 让 我 一 次 爱 个 够。
rang wo yi ci ai ge gou
let me one CL_v love GE satisfy
Let me love as much as I can.

(examples = (3) from Shang (2009:31))

He points that all three instances in (2.1) involve the same verb *ai* 'love', which is a stative verb, but they do not denote the same aspectual meaning. In (2.1a), there is no classifier in the post-verbal NP and designates a state of atelic and unbounded aspectual meaning. In (2.1b), *ge* appears in the object NP as a classifier. Shang (2009) notes that the existence of the classifier *ge* not only makes the NP referential but also makes the expression telic and bounded. Similarly, in (2.1c), the telic and bounded meaning is also incurred by the presence of *ge*, which nominalizes the verb *gou* 'satisfy' and therefore makes the state of loving bounded. Shang (2009) argues that classifiers in Chinese have the function of transforming nouns in the Chinese language from referring to 'kinds' to referring to 'entities'. Thus, by analogy, post-verbal *ge* nominalizes the

following VP and the nominalized VP marks the endpoint of the event designated by the whole expression. However, Shang (2009) fails to provide evidence for the nominal property of the element following *ge*.

Wu (2004) analyses the use of *ge* in the post-verbal position in detail and especially focuses on the cases in which post-verbal *ge* precedes non-referential nouns and non-nominal elements. She provides some evidence to prove that *ge* is a nominalizer. First, by quoting Tenny (1987) and Borer (1994) who argue that nominal objects 'may be necessary for the interpretation of a predicate as a telic', Wu (2004: 31) suggests that the non-nominal elements following *ge* are actually nominalized objects because of the telic interpretation of the predicate (Zhang 2003, Shi & Lei 2004, Shang 2009). She notices that adjectives following *ge* may not undergo either ABAB reduplication or A-not-A question formation as instantiated in (2.2a) and (2.2b), respectively, while normal predicative adjectives do not have such limitation as in (2.3) for comparison.

(2.2) a. ∗洗 个 干净 干净。
xi *ge* *ganjing* *ganjing*
wash GE clean clean

b. ∗吃 个 饱 不 饱
chi *ge* *bao* *bu* *bao*
eat GE full not full

(2.3) a. 让 屋子 干净 干净。
rang *wuzi* *ganjing* *ganjing*
make house clean clean
Let's make the room clean (clean the room).

b. 他 饱 不 饱?
ta *bao* *bu* *bao*
he full not full
Is he full or not?

Thus, Wu (2004) implies that post-verbal *ge* have changed the category of the words that follow it and to be more specific, these adjectives are nominalized. In other words, *ge* is a nominalizer. In addition, Wu (2004) further suggests a specific syntactic role for *ge* with nominalizing function as a weak determiner. She advocates that the nominalizer *ge* is not in the classifier position, but in a 'higher functional head' which 'enables a DP to be referred to as an argument' (2004: 33-34).

Shi and Lei (2004) agree that post-verbal *ge* nominalizes its following non-nominal elements, and they further argue that *ge* in this structure is a marker of atypical objects. The so-called atypical object includes adjectives, idioms, and clauses following *ge* in the post-verbal position. Unlike Lü (1984) who suggests that these elements following *ge* still remain their

original grammatical categories unchanged, Shi and Lei (2004) claim that *ge* in this pattern nominalizes these elements and therefore grants them the object role in the post-verbal position. The nominalized elements denote individualized and specific activity or event and the expression designates a specific, telic and bounded event. Post-verbal *ge* enables the individualized event reading, which links to its classifier origin.

Despite some differences in syntactic analysis, Shang (2009), Wu (2004) and Shi and Lei (2004) all agree that post-verbal *ge* nominalizes its following non-nominal elements. However, they did not present direct evidence to show that the original non-nominal elements following *ge* have any nominal properties. The syntactic tests suggested by Wu (2004) above can only imply that the expressions following *ge* lack some syntactic properties of typical adjectives in Chinese, but it is not sufficient to say that these expressions are nominals. Moreover, in many instances, even though *ge* nominalizes its following elements, semantically they cannot be interpreted as the objects of the preceding verbs. For example, (1.2c) here repeated as (2.4), in which the word following *ge* cannot be interpreted as the object of the preceding verb.

(2.4) 我 请 你 去 那里 吃 个 饱。
wo *qing* *ni* *qu* *nali* *chi* *ge* *bao*
I invite you go there eat GE full
I'll treat you a meal there and you can eat as much as you can.

In (2.4), the object of the verb *chi* 'eat' is underspecified since it is not important information in this context. The word *bao* 'full' following *ge* indicates the property of being full and semantically cannot be understood as the object of *chi* 'eat'. The next section will demonstrates that it is problematic to assign the nominalizing function to the post-verbal *ge* as the elements following *ge* cannot be proved to be nominal.

3. Nominal or not?

As analysed above, some researchers argue that the primary function of post-verbal *ge* is a nominalizer (Shi and Lei 2004, Wu 2004, Shang 2009) but they fail to provide direct evidence for the nominal properties of the elements following *ge*. This section tests the nominal properties of the elements following *ge* and argues that *ge* is not a nominalizer.

Traditionally, the distributional approach is often applied to identify the categories in a language. That is to see if a candidate unit can grammatically occur in certain syntactic structures. This approach is also known as grammatical tests (Croft 2015: 213). In section 2, Wu (2004) adopted this approach and argued that the elements following *ge* fail the tests for adjectives and therefore she claims *ge* is a nominalizer. However, other distributional tests can also be applied to show that the elements following *ge* are not nominal, either.

In Mandarin Chinese, nominal structures typically can be topicalized as in (3.1).

(3.1) a. 我 吃 了 个 苹果。
wo chi le ge pingguo
I eat ASP GE_{cl} apple

I ate an apple.

b. 苹果 我 吃 了。
pingguo wo chi le
apple I eat ASP.

It was the apple that I have eaten

But the non-nominal expressions following the post-verbal *ge* cannot be topicalized.

(3.2) a. 饭 吃 了 个 干净。
fan chi le ge ganjing
meal eat ASP GE clean
All food was finished.

b. *个 干净 饭 吃 了。
ge ganjing fan chi le.
GE clean meal eat ASP.

c. *干净 饭 吃 了 个。
ganjing fan chi le ge.
clean meal eat ASP GE.

(3.3) a. 我 带 了 点 鹅肝 饼。 来，
wo dai le dian egan bing. Lai,
I bring ASP little goose.liver pancake. Come,
咱们 尝 个 新鲜。
zanmen chang ge xinxian.
we taste GE fresh.

I have brought some goose liver pancakes. Come, let's taste them.

b. *来, 个 新鲜 咱们 尝。
Lai, ge xinxian zanmen chang
Come, GE fresh we taste

c. *来, 新鲜 咱们 尝 个。
Lai, xinxian zanmen chang ge.
Come, fresh we taste GE.

In addition, the elements following *ge* cannot be preposed by 被 *Bei* in passivization, either, as instantiated in (3.4) and (3.5).

(3.4) a. *个 干净 被 饭 吃 了。
ge ganjing bei fan chi le.
GE clean BEI meal eat ASP.

b. *干净 被 饭 吃 了 个。
ganjing bei fan chi le ge.
clean BEI meal eat ASP GE.

(3.5) a. *个 新鲜 被 咱们 尝
ge xinxian bei zanmen chang
GE fresh BEI we taste

b. *新鲜 被 咱们 尝 个。
xinxian bei zanmen chang ge.
fresh BEI we taste GE.

In the tests above, the word *ganjing* 'clean' and *xinxian* 'fresh' cannot either be topicalized alone or with *ge* preceded, which indicates that these words do not behave as a typical noun. Moreover, they cannot be preposed to the subject position in passivization as normal objects. In this sense, it seems that the elements following the post-verbal *ge* are neither nominals nor objects. *Ganjing* 'clean' and *xinxian* 'fresh' typically in Chinese appear in modifier (with associative marker '*de*') or predicate position, they are traditionally categorized as adjective or verb[2]. Semantically, these two words prototipically profile the property of being clean and being fresh, respectively. However, according to the distributional tests in (2.2) proposed by Wu (2004), these post-*ge* elements do not have typical adjectival properties, either.

Shi and Lei (2004) noted that nouns and other elements following post-verbal *ge* are non-referential and non-referential nouns normally cannot be topicalized or preposed in passivization. They suggested that instances like (3.2) -(3.5) are not grammatical because the nominalized elements are not referential. However, (3.6) is a conterexample to this argument.

(3.6) 牙 我 刷 了。
ya wo shua le.
tooth I brush ASP.
I have brushed my teeth.

Shua ya 'brush teeth' according to Li and Thompson (1981) is an idiomatic VP and *ya* 'tooth' is the collocational object of the verb *shua* 'brush'. Li and Thompson (1981) commented that collocational objects like *ya* 'tooth' in idiomatic VPs are typically non-referential. (3.6) demonstrates that it is not impossible to topicalize originally non-referenctial objects.

2 Many researchers argue that there are no adjectives in Mandarin Chinese (Li and Thompson 1981, Sackmann 1996, Rijkhoff 2000), as the property words in Chinese do not behave syntactically as typical adjectives. But since this is not the main task in this paper, I will not distinguish adjectives from verbs here.

The categories of the elements following *ge* in (3.2a) and (3.3a) are in fact not exactly the same. Although they both fail the tests for nominal category in Chinese, their semantic relation with the preceding verbs are different. According to the English translation, *ganjing* 'clean' in (3.2a) designates the final state when the eating action completes while in (3.3a), *xinxian* 'fresh' describes the property of the goose liver pancake that is the object of the verb *chang* 'taste'. In (3.3a), *xinxian* 'fresh' can be understood as an argument of the verb by metonymy. In this sense, *xinxian* 'fresh' in (3.3a) refers to a THING and has nominal sementics, while *ganjing* 'clean' in (3.2a) does not.

According to the distributional tests in (3.2) and (3.3), the elements following *ge* are not nominal; (3.4) and (3.5) suggest that they are not objects in the post-verbal position either; the semantics of the words indicate that they designate certain properties but they fail the syntactic tests for adjectives. When larger contexts the words occur in are taken into consideration, *xinxian* 'fresh' is more like a norminal while *ganjing* 'clean' is more like an adjective or verb. The syntactic test results conflict with the semantic intuition. Based on the test results, there is no explanation to why the non-nominal elements have the same distribution with *pingguo* 'apple' in (3.1a): they are all in the post-verbal position and preceded by a word of the same form with the general classifier *ge.* In addition, if *xinxian* 'fresh' is not nominal or does not have an object role, it is hard to explain its argument reading in (3.3a). The next section will try to resolve the problems with a constructional approach and identify the category of the elements following *ge*.

4. Construction grammar account for word categories

The foundamental solution to the questions listed in section 3 is to identify the nature of grammatical categories. Wu (2004), Shi and Lei (2004) and Shang (2009) share a common model of categorization, which has sharp boundaries between categories. However, as discussed above, the distributional tests confilt with the speakers' semantic intuition. As *ganjing* 'clean' in (3.2a) fails the syntactic tests for adjectives but it semantically profiles properties and *xinxian* 'fresh' in (3.3a) cannot be topicalized or passivized like normal nouns but it is comprehended as an argument of the verb. In other words, there is gradience between categories and words demonstrate properties of different categories.

Aarts (2004) tried to resolve the dilemma by proposing a different model, which on one hand preserves the boundaries between categories and on the other hand admits the existence of gradiance. He relies on distributional properties to define categories' boundaries and allows members of a category disply less property of the category or exibit properties of other categories. In Aarts' model, the tests in (2.2) and (3.2) to (3.5) are based on the properties of central members in the categories of adjectives and nouns, respectively. Although the expressions following *ge* fail these tests, we can only conclude that these expressions have less properties of the category, or in Aarts' words, they display a subsective gradience. As to the case of (3.3a), *xinxian* 'fresh', which displays the properties of both nouns and adjectives, is nominal in this instance but

display some adjectival behaviour. Aarts call this kind of gradience as intersective gradience. With Aarts' model, the conflits discussed in section 3 seem to be resolved by the existance of gradiences. It is because the expressions following *ge* do not exibit certain properties of nouns or adjectives, they fail the syntactic tests. But they are still not eliminated completely from any category. In other words, there is still no effective evidence to confirm they are nominal or not. A foundamental problem with Aarts' model is, as pointed out by Croft (2007), it does not explain which properties should be selected as tests to define the category.

Wu (2004) selects a grammatical behaviour that is unique for adjectives to argue that the expressions following *ge* are not adjectives. Shi and Lei (2004) and Shang (2009) believe the expressions following *ge* are nominal because these expressions are formally in the object position and objects are typically nominals. In section 3, topicalized and passive constructions are selected as distributional tests for nominal category. All these properties are chosen by intuition. However, are these properties defined by categories or the other way around? Croft (2001, 2007) proposes a constructional approach to study grammatical categories in constructions rather than in 'discrete form classes' (Croft 2007: 419).

Bearing the limitations of the distributional analysis in mind, Croft (2001) proposes an alternative view: when a syntactic structure is used to test a category membership, we can discover something about the property of the slot in the structure instead of the category of the filler. Croft (2001:48) argues that categories and relations are internal to constructions and derived from the constructions. In other words, categories are defined in constructions by their constraints on the slots, not the other way around. The basic units in language are constructions and the grammatical categories are generalizations over constructions. Thus, the categories of the elements in question are construction–specific. Despite of the same form, if the elements occur in different constructions or different slots, they can be identified as different categories according to the constraints on the slots.

Based on the constructional view, before identifying the categories of the elements in question, it is necessary to define the constructions the elements occur in. (3.1a), here repeated as (4.1a), instantiates the transitive construction, illustrating the relationship between the elements in the slots and the construction they occur in. *Pingguo* 'apple' in the post-verbal position refers to an entity (object in Croft's word). This entity in this transitive construction is the patient argument of the verb *chi* 'eat' in the object position. In (3.2a), here repeated as (4.1b), the property word *ganjing* 'clean' in the post-verbal position has the propositional act function of predication, not reference. It designates the result of the eating action. Unlike (4.1a), in which the post-verbal noun is the patient argument, in (4.1b), the patient argument is *fan* 'meal' and has been preposed to the subject position. In (3.3a), here repeated as (4.1c), the property word *xinxian* 'fresh' in the post-verbal position refers to a thing as analyzed in section 3, and it is the patient of the verb *chang* 'taste'. In other words, (4.1a) and (4.1c) are generalized as the same construction, i.e. transitive construction, while (4.1b) instantiates a different construction.

(4.1) a. 我 吃 了 个 苹果。
wo chi le ge pingguo
I eat ASP GE_{cl} apple
I ate an apple.

b. 饭 吃 了 个 干净。
fan chi le ge ganjing
meal eat ASP GE clean
All food was finished.

c. 我 带 了 点 鹅肝 饼。 来，
wo dai le dian egan bing. Lai,
I bring ASP little goose.liver pancake. Come,
咱们 尝 个 新鲜。
zanmen chang ge xinxian.
we taste GE fresh.
I have brought some goose liver pancakes. Come, let's taste them.

A syntactice test is applied in (4.2) to prove that (4.1b) instantiates a different construction from the other two. In Mandarin Chinese, additional event arguments can be added by the morpheme 把 *Ba* as long as it is semantically allowed. (4.1a) and (4.1c) are defined as instances of transitive construction and their agent and patient positions are filled. Therefore, it is not posisble to add extra arguments for the verb.

(4.2) a. *我 把 香蕉 吃 了 个 苹果。
wo ba xiangjiao chi le ge pingguo.
I BA banana eat ASP GE_{cl} apple.

b. *我 把 他 吃 了 个 苹果。
wo ba ta chi le ge pingguo.
I BA him eat ASP GE_{cl} apple.

(4.3) a. *来, 咱们 把 苹果 尝 个 新鲜。
Lai, zanmen ba pingguo chang ge Xinxian.
Come, we BA apple taste ge fresh.

b. 他 把 饭 吃 了 个 干净。
ta ba fan chi le ge ganjing.
him BA meal eat ASP GE clean.
He finished all the food.

In (4.3a), like (4.2), it is not possible to add another argument while (4.3b) is still grammatical with a newly added argument. This means in (4.1c), unlike the other two examples, the element following *ge* is not an argument of the preceding verb.

There is another problem regarding the role of *ge*. In (4.1a), *ge* preceding *pingguo* 'apple' is part of the object NP and *ge* is a classifier to individualize an entity the noun refers to. As

analyzed above, (4.1c) instantiates a same transitive construction and therefore *xinxian* 'fresh' is nominal. Does it mean *ge* is still a classifier and does *ge* nominalize the following word? In order to answer this question, let's have a look at an attested instance in (4.4).

In (4.4), *xinxian* 'fresh' is also in a post-verbal position, but not preceded by *ge*. With the same approach above, *xinxian* 'fresh' in (4.4) is recognized as the patient argument in the direct object position and therefore is nominal. This suggests that *xinxian* 'fresh' alone in this object position is nominal.

Without any overt marking, *xinxian* 'fresh' is a typical adjective. As demonstrated in (4.5), *xinxian* 'fresh' can be used as a property modifier (a), predicate (b) and it can be gradable (c).

(4.5) a. 新鲜 水果 都 很 贵。
xinxian *shuiguo* *dou* *hen* *gui.*
fresh fruit all very expensive.
Fresh fruits are all very expensive.

b. 水果 很 新鲜。
shuiguo *hen* *xinxian.*
fruit very fresh.
Fresh fruits are all very expensive.

c. 这些 水果 最 新鲜。
zhexie *shuiguo* *zui* *xinxian.*
these fruit most fresh.
These are the freshest fruits.

Xinxian 'fresh' in this sense is a prototypical adjective but in (4.1c) and (4.4) it is converted to a de-adjectival noun. In (4.4), although there is no *ge* preceded, *xinxian* 'fresh' acquires the nominal property from the transitive construction. That means in transitive construction, the direct object slot is required to be filled by a nominal element. The transitive construction defines the filler in the object slot to be a nominal that refers to a thing. Thus, *xinxian* 'fresh' in (4.1c) and (4.4) is nominalized by the transitive construction it occurs in, rather than any other morphological marker, such as *ge*.

This model can also be applied to explain other similar instances as in (4.6).

(4.6) a. 寻 个 自尽
xun *ge* *zijin*
Look.for GE suicide
want to commit suicide

b. 知 个 高 下
zhi *ge* *gao* *xia*
know GE high low
learn which one is better

c. 落 个 人 财 两 空
luo ge ren cai liang kong
fall GE people fortune two empty
End up with having nothing

Zijin 'suicide' in (4.6a) is a noun referring to an action; *gaoxia* 'high and low' in (4.6b) is a de-adjectival noun phrase referring to the relevant properties; in (4.6c) it is a clause that is nominalized as a whole referring to a situation. All these elements in the post-*ge* position are nominalized following the constraints of the constructions they occur in. They are linked to the category of nouns in the so-called conceptual space or semantic space (Croft: 2001:92). The deverbal nouns are action referents and de-adjectival nouns are property referents. They still designate actions and properties, respectively, but the original relational semantics is bleached.

The nominalized expressions denote more abstract nominal meaning than prototypical nouns, but they all refer to **things**. Langacker (1987a: 189) proposes that 'a thing is properly characterized as a region in some domain'. *Pingguo* 'apple' in (4.1a) with classifier *ge* is a prototypical count noun, which according to Langacker (1987a) is construed as being physically bounded in a spatial domain of three-dimensional space. The three- dimensional space is the basic and most salient domain in the semantic space when construing nouns, but it is just one of the domains. De-adjectival nouns, like *xinxian* 'fresh', designates a homogeneity property, which can be specifically recognized together with the goose liver pancakes and can be distinguished from other property. The de-adjectival phrase *gaoxia* 'high and low' designates a scale that is bounded by the two polarities. As to the deverbal nouns in (4.6 a), it enables an episodic reading of the action of committing suicide and in (4.6 c), the nominalized clause designates a type of process that is qualitative homogeneity, which distinguishes it from other process. Although all these elements following the post-verbal *ge* are nominalized in the transitive construction, in the low-level generalization, they are not the same kind of object to the verbs. The property of the fillers in construction slots are construction-specific.

Croft (2001, 2007) lists a typological prototypes of the combinations of semantic classes and propositional acts as follows (Croft 2007: 423)

a. reference to an object
b. modification by a property
c. predication of an action

These three combinations correspond to the traditional categories of noun, adjective, and verb, respectively. These combinations are unmarked and coded without other morphemes (Croft 2007: 425). However, the above instances also demonstrate that it is possible to have reference to an object, to a property and to an action. The relation between propositional act function and semantic classes of grammatical forms are flexible.

Since it is not *ge* that nominalizes the following non-nominal elements, the function of *ge* in this particular position is not clear. In Mandarin Chinese, *ge* as a classifier has the function of individualization, so nouns can collocate with classifier *ge* denoting discrete and bounded entities as in (4.1a). The nominalized elements as analysed above with high level of the abstractness compared to prototypical nouns, are hardly construed as discrete entities. Therefore, the way they are semantically bounded in a different fashion from prototypical nouns. In this sense, *ge* in these instances is less likely a classifier.

From the above instances involving post-verbal *ge*, three different constructions can be generalized. One is instantiated by (4.1a), in which ge is a classifier; one is represented by (4.1c) and (4.6), in which *ge* is followed by a nominal elements but it is not a classifier; the other one is abstracted from (2.4) and (4.1b), in which the elements following *ge* are not nominalized. In section 2, it has been briefly mentioned that the elements following the post-verbal *ge* cannot be understood as the object of the preceding verb, so they are not nominalized by the construction they occur in.

(4.7) a. 他 把 衣服 洗 个 干净。 =(1.3)
ta *ba* *yifu* *xi* *ge* *ganjing*
he BA clothes wash GE clean
He washed the clothes till clean.

b. 我 请 你 去 那里 吃 个 饱。 =(2.4)
wo *qing* *ni* *qu* *nali* *chi* *ge* *bao*
I invite you go there eat GE full
I'll treat you a meal there and you can eat as much as you can.

In (4.7a), *ganjing* 'clean' describes the state of the clothes after being washed and in (4.7b) *bao* 'full' designates the expected result of the eating event. Thus, instances in (4.7) actually involve two subevents each. These elements following *ge* designate secondary events that in fact introduce endpoints to the actions designated by the preceding verbs: once the states described by these words have achieved, the actions will stop. In other word, (4.7) designate bounded and telic aspectual meaning. In this construction, the words following *ge* have the propositional act function of predication. *Ge* in these instances cannot be deleted. The construction instantiated by (4.7) can be generalized as [V *ge* Non-nominal] with telic and bounded aspectual meaning. As to the instances in (4.1c) and (4.6), they also imply a bounded and telic aspectual meaning, but not in the same way with the [V *ge* Non-nominal] construction. (4.1c) and (4.6) involve a transitive construction, and the preceding verb and the nominalized element together designate one complete event. These instances designate events with clear goals. As in (4.1c), the goal of the action is to taste the freshness of the goose liver pancakes; the literal meaning of (4.6a) is to 'search for suicide'; in (4.6b) and (4.6c), the nominalized phrases also refer to the goal of the action. In these instances, *ge* is indispensable and the verbs cannot directly join with the originally non-nominal elements. This indicates that (4.1c) and (4.6) are not simply transitive

construction but more complex. The nominalized elements following *ge* in this sense are similar to the non-nominal expressions in [V *ge* Non-nominal], as they all designate the end point of the event although they do not have the same propositional act function. [V *ge* N] construction and [V *ge* Non-nominal] construction are therefore semantically linked. Due to similar formal representation, these two constructions can be further generalized as [V *ge* X] with telic and bounded aspectual meaning. *Ge* in this high-level generalization is relevantly independent from either the preceding verb or the following element despite indispensable, so it is recognized as the marker of the construction.

5. Conclusion

This paper examines the category of the elements following *ge* in the post-verbal position, especially when these elements are prototypically non-nominal. Many linguists argue that *ge* in this position is a nominalizer that nominalizes the following elements. But neither distributional tests nor semantic analysis provides sufficient evidence to prove the nominal properties of the elements following *ge*. Croft (2001, 2007) proposes an alternative model to account for word categories with a constructional approach. He advocates that word categories are defined by specific constructions they occur in, but not the other way around.

Following Croft's (2001, 2007) fashion, I first investigate the constructions the elements in question appear and then generalize two different construction. One is represented as [V *ge* N] and N is a converted noun that is the object of the preceding verb. The elements following *ge* are nominalized by the construction not *ge*. The other construction is [V *ge* Non-nominal] and the element following *ge* retains its original category. In this construction, the non-nominal element has a propositional act function of predication. Thus, *ge* in these two constructions does not nominalize its following elements. Moreover, after examining the semantic properties of the two constructions, *ge* does not function as a classifier here either. Instead, *ge* is a marker of a construction generalized from [V *ge* N] and [V *ge* Non-nominal] constructions and this higher-level construction is represented as [V *ge* X] with telic and bounded aspectual meaning.

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