

A Cognitive Study of Nominalization in Mandarin

LI Lin-ze

College of International Studies, Southwest University,
Chongqing, China

YANG Ting

Chongqing College of Humanities, Science & Technology,
Chongqing, China

Cognitive grammar does not differentiate nominalizations belonging to the syntax or in the lexicon. From the perspective of cognitive construal, nominalizations of verbs and adjectives involve the alternate profiling of certain aspects of relationships while the nominalizations of structures and sentences are motivated by the conceptual packaging of events as entities on a larger scale. A new notion, ontologicalization, is introduced into the study as the cognitive mechanism underlying nominalizations on all levels. It is shown that nominalizations are not only pervasive but also theoretically significant in Mandarin, ranging from lexis to sentences. Nominalizations may take two different forms: affix-derivation and zero-derivation. *de* (的) is an important nominalizer in Mandarin in that it functions as a suffix as well as an infix with words, structures and sentences.

Keywords: nominalization, construal, ontologicalization, Mandarin, *de* (的)

I. Introduction

Nominalization is pervasive and significant trans-linguistically and has been considered as a typological universality from a cognitive perspective. Its existence in human languages has been validated by massive cognitive and psychological studies. The present article focuses on this important transcategorical shift in Mandarin and has mainly been prompted by three observations. First, previous descriptive analyses of nominalization fail to cover all types and levels of nominalization in a coherent and systematic way. Second, the studies of nominalization are mainly dwell on the lexical level, with the nominalization of phrases and clauses being neglected, resulting in fragmented conclusions that cannot incorporate lexical and clausal nominalizations in general. Moreover, researches on nominalization in Mandarin mainly base on a theoretical background drew from Indo-European languages, which are found wanting in revealing the special characterizations of nominalization in Mandarin.

The observations reflect deficiencies of theory as well as of description in previous studies. The main theoretical issue is how we can model nominalization in a systematic and general way that its manifestations in all symbolic units can be accounted while the major descriptive problem is the lack of a general notion that subsumes nominalization on all levels. Most attention so far seems to have gone to the relationship between word classes and syntactic roles (cf. Zhu, 1961, 1984; Zhu, Lu, & Ma, 1961; Liu, 1994), the remodeling of word class

LI Lin-ze, M. A, Lecturer, College of International Studies, Southwest University, Chongqing, China.

YANG Ting, M. A, Lecturer of English Language, Chongqing College of Humanities, Science & Technology, China.

Abbreviations: Vi, Intransitive verb; Vt, transitive verb; N, noun; ASP, aspect markers; NEG, negative morpheme; NOM, nominalizer; CLAS, classifier; 3SG, 3rd person singular; 1PL, 1st person plural; 1SG, 1st person singular; PRT, particle.

system (Shen, 2007, 2009, 2010, 2011; Guo, 2010; Lu, 2013; Wang, 2018; etc.) and case studies on the clausal level (Shi, 1981, 1988; Zhang, 1993; Wang, 2002; Lu, 2003; Si, 2004; Wu, 2006; Zhou, 2013; etc.). Despite of the century-long explorations as shown by the studies above, reaching a general nominalization theory in Mandarin is still out of the question.

To tackle the theoretical as well as descriptive deficiencies, this study first recapitulates the main findings and flaws in previous studies in Section 2. Section 3 provides the theoretical and descriptive basis for remodeling nominalization in Mandarin. We hold that nominalization is motivated by different ways of cognitive construal. Nominalizations of verbs and adjectives involve the alternate profiling of certain aspects or constituents in the verbal or adjectival cognitive domains while the nominalizations of structures and sentences are motivated by the conceptual packaging of events as entities on a larger scale.

The concept of ontologicalization is introduced into the study to manifest the underlying conceptual mechanism of nominalization in general. It also serves as the conceptual and important criteria for the identification of nominalization since nominalized units do not always have discernible structural components like suffixes or infixes. By adopting this new notion, nominalizations of structures and sentences (e.g., *Ta de buchifan rang women hen shengqi* (Her not having meals makes us very angry)) can be explicated on the same basis with nominalizations on the lexical level (e.g., *laodong* (work, vi.)→*laodong* (work, n.)). In line with the generalization commitment of cognitive linguistics, we hold that ontologicalization is a prevailing cognitive mechanism underlying all nominalized linguistic expressions, no matter to what degrees of entrenchment these expressions might be.

In Section 4, nominalization are classified into three distinct types, namely, suffix nominalization, zero nominalization and *de* nominalization. Each of the three types serves as a covering term for subordinate types of nominalization, ranging from lexis, phrases, clauses and sentences. The new classification provides a coherent and systematic account of nominalization in Mandarin. Case studies like *zhe ben shu de chuban* (The publication of this book), *ta de bulai* (His not coming) are carried out in this section too. The last section presents our findings in the study.

II. Previous Studies on Nominalization in Mandarin

The issue of nominalization in Mandarin is of extraordinary complexity as it is intertwined with the problem of Chinese word classification and the relation between word classes and their syntactic roles. The discussion of word categorical shift dates back to the first Chinese grammar book, *Ma's Grammar* (Mashiwentong) in 1898. As an obvious difference from that of Indo-European languages, a large number of verbs and adjectives in Mandarin can be used as subjects or objects without any discernible morphological change, like morphemes -ness, -er, -ing, -tion, etc. From that time onwards, categorical shift becomes an ineluctable topic in every single Chinese grammar book and poses as a long-standing challenge scholars have to face.

Scholars like Ma (1898), Chen (1922), Jin (1922), Li (1924), Li & Liu (1960), Shi (1960), Hu & Fan (1994) hold that the verbs and adjectives functioning as subjects are nominalized based on the fact that they lost some of their original categorical features while taking on nominal functions and syntactic roles usually for nouns. However, Zhu & Lv (1952), Zhu, Lu & Ma (1961), Zhu (1961, 1984) hold that generalizations drew from the one-to-one correspondence between word classes and their syntactic roles in Indo-European languages are not

applicable in Chinese grammar. Nominalization without formal changes is nothing but rootless fabrication. They believe that, unlike words in Indo-European languages, Chinese words are multifunctional in that, as predicate words, verbs and adjectives can take nominal syntactic roles like subject and object without any morphological change. Shen (2007, 2009, 2010, 2011) and Wang (2018) take a further step and claim that Chinese words form inclusive categories (with adjectives as part of verbs and verbs as part of nouns as shown in Figure 1(a) as against the divisive word categories in Indo-European languages as shown by Figure 1(b).

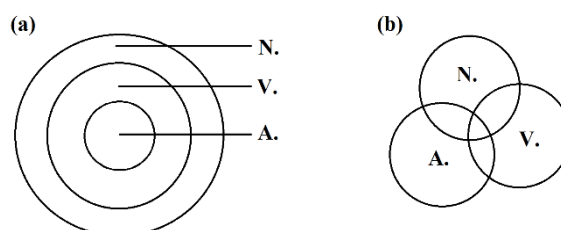


Figure 1. Models of Word Categorization.

Still others (e.g. Gao, 1960; Xu, 1994) claim that there is no word class or lexical category in Mandarin because the lack of morphological changes renders classification based on lexical form impossible, and the multi-functionality of Chinese words undermines the validity of classification based on usage.

Researches on nominalization also go beyond lexis. However, most of the researches on the phrases, clauses, sentences or portions of sentences go eventually to the challenges of the nominalization of the heads of the structures and, especially, the applicability of the *Endocentric Construction Theory* to Chinese grammatical analysis. Scholars (e.g. Shi, 1981, 1988; Zhu, 1984; Xiang, 1991; Cheng, 1999a, 1999b; Si, 2002, 2004; Lu, 2003; Shi, 2004; Wu, 2006) make continuous efforts to accommodate the conflict between the nominal syntactic functions of structures and their verbal or adjectival heads. It hardly can be said that any consensus has been reached till now, but what for sure is that most of the discussions focus on the question of whether the heads of the constructions are nominalized or not. Therefore, there is hardly any research of nominalization beyond the lexical level in Chinese literature in actuality.

Close recapitulation of the researches on nominalization as mentioned above reveals clear theoretical as well as descriptive deficiencies. Previous studies hold that the claim that verbs and adjectives functioning as subjects or objects are all nominalized necessitate the emergence of vast number of multi-category words. In accordance with this claim, the confirmation of word classes is determined by the syntactic roles they take, and, worst of all, the categorization of word classes would be impossible without referring to syntax. As the building bricks of Chinese grammar, the uncertainty of word classes renders linguistic researches impossible.

Secondly, the claim that the verbs and adjectives functioning as subjects and objects do not undergo any categorical change equates the multifunctional view of Chinese verbs and adjectives. It goes in direct conflict with the notion of *head* in Bloomfield's¹ (1933) *Endocentric Constructions Theory*, Chomsky's (1970, 1995) *X-bar Syntax and Head Theory*, Gazdar & Pullum's (1981) and Gazdar et al.'s (1985) *Generalized Phrase Structure Grammar*, Anderson's (1971, 1977) and Matthews' (1981) *Dependency Grammar*, to name but just

¹ As claimed by Bloomfield in 1933, an endocentric construction fulfils the same linguistic function as one of its parts, which is usually called the center or the head of the construction.

few. Scholars (e.g. Zhu, 1984) try to redefine endocentric structure by introducing the notion of *semantic selection restriction*, but is later considered as a failure by many (c.f. Cheng 1999c, Guo, 2010). As for Shen's (2007, 2009, 2010, 2011) and Wang's (2018) argument on the hierarchical inclusive categories of Chinese nouns, verbs and adjectives, their theory contradicts with native speakers' intuition about word classes and is flawed from a logical perspective (see also Lu, 2013).

Moreover, the denial of the possibility of word categorization in Mandarin cannot respond to the challenges of categorial shift, especially, nominalization, on one hand and makes the issue even more complicated on the other.

Last but not the least, the researches of nominalization are heavily biased towards the lexical level in Mandarin and, thusly, the findings are far from being systemic and general.

To sum up, because of the lack of inflections and the consequent morphological change, nominalization in Mandarin seems far more complicated and challenging than that in Indo-European languages. Ever since Ma's research over one century ago, it still poses as a major challenge for Chinese linguists. A theory that can both account for nominalization in human languages in general and accommodate the peculiarities in Mandarin is still a long way off.

III. Nominalization from the Perspective of Cognitive Grammar

Langacker (2004) defines nouns and verbs from the perspective of cognitive grammar and interprets nominalization via cognitive construal. Verbs and adjectives represent relationships following through time. As illustrated by Figure 2(a), the rectangle stands for the cognitive domain of a verb.

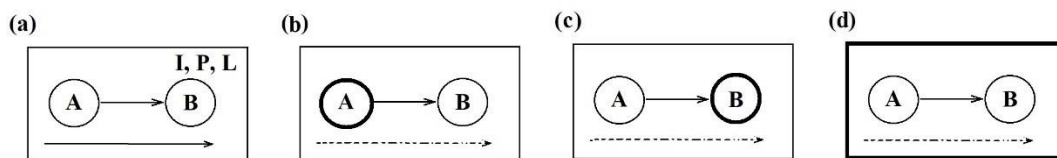


Figure 2. Verbal Cognitive Domains and Different Profilings.

The two circles marked A and B stand for entities that are involved in the action, while the arrow linking the circles symbolizes the interaction or energy transfer between the entities. The longer arrow below represents the flow of time since verbs are temporally bounded. Verbal domains contain peripheral elements like I (instrument), P (product), L (location), etc. Therefore, nominalization of verbs are the alternate profilings of the constituents in the cognitive domain. For example, nominalization symbolized by Figure 2(b) is the profiling of agents, like complainer, driver, blender while 2(c) is the profiling of patients, such as draftee, advisee, choice. Peripheral elements can be profiled, like rocker, walker, painting, mark, diner, lounge, etc. Also, the whole cognitive domain can be nominalized as shown by Figure 2(d). With the nominalization of verbs, the arrow standing for time becomes dotted because nominalization is accompanied by the process of detemporalization. Nouns are not temporally bounded.

As analyzed above, nominalization of verbs involves the profiling shift of existent factors in the verb cognitive domain. The process does not add any conceptual content to the domain. It's natural to infer that

verbalization of nouns necessitate the addition of extra conceptual content to the original nominal cognitive domain. The asymmetry in the cognitive domains is the fundamental reason for the unbalanced categorial shift between nominalization and verbalization, with nominalization being easier and in a larger number than verbalization.

Cognitive grammar does not differentiate nominalization in lexis and syntax since the underlying cognitive mechanisms are the same. But we shall aware that, linguistically, nominalization may take on different forms varying from language to language. In the coming two Sections, we will develop the concept of nominalization from a perspective of cognitive linguistics by introducing a new notion and survey the forms of nominalization in Mandarin.

IV. Defining Ontologicalization

Ontologicalization is introduced into the study because of previous deficiencies in revealing the underlying cognitive process of nominalization. We borrow the term from Lakoff & Johnson's seminal work in 1980 that, as a general and ordinary cognitive way to recognize and function in this world, people tend to treat abstract concepts as entities:

Understanding our experiences in terms of objects and substances allows us to pick out parts of our experience and treat them as discrete entities or substances of a uniform kind. Once we can identify our experiences as entities or substances, we can refer to them, categorize them, group them, and quantify them—and, by this means, reason about them. (Lakoff & Johnson, 2003, p. 23)

Ontological metaphors reflect the ways of viewing events, activities, emotions, ideas, etc. as entities and substances. In nominalization, people are going through the same underlying cognitive manipulation, treating abstract concepts as concrete ones. Its manifestation in language is enormous, as “the nouns express an object-experience, be it really such (stone, house, man) or viewed as such (skating, length, greenness)” (Bloomfield, 1983, p. 121). As can be seen in our review of previous researches, Chinese verbs and adjectives can function as subjects and objects without morphological change and the major dispute is whether these words are nominalized or not. From a cognitive perspective, we propose that all activities, events, properties, etc. represented by the verbs, adjectives, phrases and clauses are ontologicalized.

The necessity of this new concept resides in the fact that while in some languages, e.g. English, nominalization and ontologicalization are adjacent pairs, shown by the conspicuous markers of gerundive nominals, derived nominals and *that*- structures. However, because of the vast number of zero-derivation and ellipsis in Mandarin (see also Lu, 2013), it hard to tell exactly whether the verbs and adjectives are nominalized or not.

- (1) a. John is eager to please.
b. John has refused the officer.
c. John criticized the book.
- (2) a. John's being eager to please.
b. John's refusing the officer.
c. John's criticizing the book.
- (3) a. John's eagerness to please.

- b. John's refusal of the officer.
 - c. John's criticism of the book.
- (4) a. gongsizaifazhan.
 Company ASP develop.
 The company is developing.
- b. fazhan hen zhongyao.
 Develop very important.
 Development is very important.
 - c. fa bufazhanyuwo wuguan.
 Develop NEG develop and 1SG no connection.
 Whether (the company, etc.) will develop or not is none of my business.

Noam Chomsky's examples (1)-(3) as cited above show that there are nominalizing markers in English, while Chinese strikingly differs from English in that, as shown by (4), *fazhan* (develop) can be used fairly freely as a predicate in (4)a or a subject in (4)b. There is no disagreement about the categorical shift of *fazhan* from verbal in (4)a to nominal in (4)b. However, (4)c represents an intriguing issue because, as the subject of the sentence, *fazhan* is definitely a verb because it is modified by *bu* (not), which is a predicate negation adverb. Close examination reveals that utterances like (4)c are colloquial and their successful understanding are highly context-dependent. The real subject of the sentence is the ontologicalized event "Whether (the company) will develop or not" and *fazhan* is a standing component of there maining clause. Therefore, *fazhan* in (4)c is still a verb and the real subject is the ontologicalized clause. In actually, people tend to conceptualize events, actions, thoughts, etc. as ontologicalized entities and their nominalization on the syntactic level renders them as easy topic or subject of forthcoming narration or description.

Therefore, we propose a definition of ontologicalization as human beings' cognitive capacity of viewing abstract things such as events, activities, emotions, ideas, etc. as entities and substances. It is the fundamental conceptual basis for nominalization in human languages in general. Ontologicalization above the lexical level, e.g. phrases, clauses, sentences or portions of sentences does not necessarily mean the nominalization of all constituents in the structures. In languages being lack of nominalizing markers, repeated ontologicalization of lexis enhances the degree of entrenchment and leads to the generalization of multi-categorical words. The differences between ontologicalization and nominalization lie in the fact that the former resides in the conceptual level and is considered as a general cognitive capacity while the latter is the consequent syntactic manifestation of the former.

V. Nominalization in Mandarin

5.1 Suffix Nominalization

The most obvious and easily identifiable type of nominalization is suffix derivation. Suffixes like *-zhe* (people), *-pin* (thing), *-jia* (perffessional), etc. are added to predicate words, usually verbs, to refer to the agent, patient, tool or even the location, manner and time of the action. Studies (e.g. Wang, 2004) show that agents and patients are the most frequent targets of nominalization. It is a natural result of the close relationship between the

verb and its agent/patient in the idealized cognitive model (ICM) of action. The following are some examples of the ACTION FOR AGENT nominalization.

Table 1

ACTION FOR AGENT Nominalization

-zhe (people)	bianzhe	duzhe	ducaizhe	jizhe	xuezhe	huanzhe
	Edit-zhe	read-zhe	dictate-zhe	note-zhe	study-zhe	infected-zhe
	Editor	reader	dictator	journalist	scholar	patient
-yuan (people)	caipanyuan	banshiyuan	fuwuyuan	guanchayuan	qianshuiyuan	linghangyuan
	judge-yuan	work-yuan	serve-yuan	inspect-yuan	Dive-yuan	laviagate-yuan
	referee	clerk	waiter	inspector	diver	navigator
-shi (people)	Zhanshi	Hushi	Bianshi	Qishi		
	War-shi	Nursing-shi	debate-shi	Ride-shi		
	soldier	Nurse	debater	rider		
-shou (hand)	Bangshou	Dashou	Sheshou	Zhushou	Nieshou	bashou
	Help-shou	Fight-shou	Shoot-shou	Assit-shou	Hunt-shou	Steal-shou
	Helper	fighter	Bully(N.)	Assistant	Hunter	thief

The four suffixes as shown above, together with *-ren* (people), *-sheng* (people), *-zi* (son), *-jia* (professional), *-zhu* (owner), *-shi* (master), *-tou* (head), *-wu* (thing), etc. are added to verbs as nominalizing markers indicating the agents of the actions. With different roots and routes of grammaticalization, the nominalizers carry with them varying connotations and requirements of fixed collocations. For example, although both *-zi* and *-sheng* can pair with *xue* (study), i.e. *xuezi*, *xuesheng*, to mean “student”, the resultant compounds have different meanings and usages, with *xuezi* being a collective word and only used in poetic styles. *-zhe* denotes professionalism in a field, so when it is added to *xue* (study), the word *xuezhe* does mean a student, but a scholar. Obviously, Chinese language prevails English in the regards of the number and variety of nominalizers.

In the ICM of action, patient is of secondary importance to agent. Correspondingly, a large number of suffixes can be added to verbs to donate the patients of the actions.

Table 2

ACTION FOR PATIENT Nominalization

-pin (thing)	chanpin	chulipin	zhanlanpin	xishengpin	xiaofeipin	bixupin
	Produce-pin	Dispose-pin	Exhibit-pin	Die-pin	Buy-pin	Vitally need-pin
	product	Bargain(n.)	Exhibit(n.)	victim	Consumption goods	Necessity
-wu (thing)	canzhaowu	duwu	hunhewu	shiwu	shiwu	wanwu
	Refer-wu	Read-wu	Mix-wu	Eat-wu	Lose-wu	Play-wu
	Reference	books	mixture	food	Lost property	toy

-pin (thing) and *-wu* (thing) are productive nominalizers in Mandarin. The resultant words imply passiveness and are the usual patients of the actions. Similar suffixes are *-zi* (son), *-tou* (head), *-er* (son), *-yuan* (people), *-shou* (hand), etc. The overlapping of agent suffixes and patient suffixes is a natural linguistic manifestation of the fact that people or personalized things may play different roles in action events.

Statistics show that nearly ninety percent of the deverbal nominals are the agents and patients involved in the actions while about ten percent refers to the tools involved the actions. In only a few cases, the deverbal

nominals refer to the time, place or location of the actions. The statistics are in line with ordinary cognition that agents and patients are salient and indispensable elements in the ICM of action.

In actuality, *-de* is also a productive nominal affix in Mandarin, but since its nominalizing mechanism is slightly different from that of the suffixes being addressed in this part, it will be explored in Section 5.3.

5.2 Zero Nominalization

In this part, we will argue against the view that Chinese verbs and adjectives can function as subjects and objects, and claim that these verbs and adjectives are actually ontologicalized conceptually and nominalized syntactically. Their way of nominalization is zero derivation.

Discussions on the nominalization of verbs and adjectives being used as subjects and objects have been going on for over a century. It is an unavoidable challenge for scholars in the field of Chinese grammar studies. Based on close investigation into the so-called verbal or adjectival subjects and objects, we argue that all verbs and adjectives are nominalized. The core issues are, in actuality, the pervasion of zero derivation and the degree of entrenchment in word categorical shift. The multifunctionality of verbs and adjectives is not a special feature of Chinese language, while the pervasiveness of zero derivation is.

(5) *youyong* *duishenti* *you* *haochu*.

Swim to body have good.

Swimming is good to the body.

(6) *qianxushi* *zhongmeide*.

Modest isone CLAS virtue.

Modesty is a virtue.

youyong (swim) is used as a noun in (5) because of its daily usage in reference to the name of a sport that people usually do instead of the actual actions that we do in a pool. The word is marked both as a noun and a verb in Chinese dictionaries. However, the part of speech of *qianxu* (modest) in (6) is problematic. Some consider it as a nominalized word while others take it as an adjectival subject. We believe that it is ontologicalized to refer to an abstract thing, a mode of behavior and a favorable personal character. Its formation is a result of affix-free nominalization. In daily usages, the word resides somewhere between the poles of nouns and adjectives and it can be expected that, with repeated ontologicalization and usage, it will eventually take on the function of a noun and become a multi-categorical word as exemplified below.

Action for Agent

<i>daoyan</i> (direct-director)	<i>jiankao</i> (invigilate-invigilator)	<i>linghang</i> (navigate-navigator)
<i>daoyou</i> (guidevt.-guiden.)	<i>fanyi</i> (translate-translator)	<i>guanshi</i> (housekeep-housekeeper)
<i>huwei</i> (guardvt.-guard n.)	<i>bianju</i> (write a play-playwrite)	<i>daibiao</i> (represent-representative)
<i>bianji</i> (edit-editor)	<i>ducha</i> (inspect-inspector)	<i>lingchang</i> (lead a song-precentor)
<i>suicong</i> (follow-attendant)	<i>chuna</i> (receive/pay-cashier)	<i>caigou</i> (purchase- purchaser)
<i>lingdao</i> (lead-leader)	<i>genchai</i> (serve-attendant)	<i>shoufa</i> (receive/give-dispatcher)

Action for Patient or Result

<i>shouru</i> (receive-income)	<i>baоче</i> (rent a car-rental car)	<i>cangshu</i> (collect books-books)
--------------------------------	--------------------------------------	--------------------------------------

<i>gengdi</i> (plough-field)	<i>daikuan</i> (borrow money-loan)	<i>faming</i> (invent-invention)
<i>kaizhi</i> (spend-expenditure)	<i>chuxu</i> (save-deposit)	<i>gugong</i> (employ -employee)
<i>pingfen</i> (markvt.-score)	<i>diao</i> (carve-sculpture)	<i>zuowen</i> (compose-composition)
<i>jianzhu</i> (build-building)	<i>xiwang</i> (hopevt.-hope n.)	<i>jihua</i> (plan vt.-plan n.)
<i>baozhuang</i> (pack-package)	<i>mengxiang</i> (dreamvt.-dreamn.)	<i>dasuan</i> (intend-intension)

Zero derivation may be a means to optimize language, allowing a minimum of forms to have a maximum of functions (cf. Zipf, 1949; Robert, 2003; etc.) and conforms to Martinet's (1960) notion of "economy", satisfying communicative needs with least efforts. However, are all verbs and adjectives in the position of subject or object nominalized and functioning as nouns, no matter they are temporary borrowing or long-term entrenchment? We get a negative answer because another feature of Mandarin besides zero derivation is the pervasive ellipsis for simplifying linguistic forms.

- (7) *fucong* you shenme haochu?
Obey have what good?
If we obey, what benefit will we have?
- (8) *qianxu* can yingderen mende zunzhong.
Modesty can win PRT people NOM respect.
Being modest can win people's respect.

Lu (2013) holds that the verb *fucong* (obey) in (7) and *qianxu* (modest) in (8) are not nominalized. They can be modified by adverbials like *bu* (not), which is an exclusive modifier for predicate words, i.e. verbs and adjectives. *fucong* (obey) and *qianxu* (modest) are part of the ontologicalized phrases and their interpretations are highly contextual. In accordance with our definition of ontologicalization in Part IV that the ontologicalization of phrases and clauses does not require the nominalization of every component of the structure, *fucong* and *qianxu*, as the remaining components of the ontologicalized but simplified structures, keep their original categorial statuses as a verb and an adjective respectively.

If our analysis above is correct, the next challenge we face is to determine whether the predicate words in the slot of subject or object is nominalized or not since, in both ways, there is no conspicuous morphological change. The conclusion generally drawn is that the distinction can be established and characterized in terms of grammatical behaviors. Indeed, nouns have distinctive grammatical properties from those of verbs and adjectives and that characterization is still valid in this case. Take *youyong* (swim, vi. & swimming, n.) for example. When it is taken as an exercise, or a game in the Olympics, it is an abstract noun and conceptually independent. But when it is used in the context where a boy, who does not want to leave his toys and go to the swimming pool, argues with his mother:

- (9) "youyong you shenme haochu? *Buyouyong* you shemehuaichu?"
"Swim has what good? NEG swim has what bad?"
If I swim, how will it benefit me? If I don't swim, how will it harm me?"

The contrast between (5) and (9) is self-evident in that *youyong* in the latter can be modified by *bu* (not). In this way, it can be confirmed that *youyong* in (9) is actually the remaining component of a subjunctive clause.

5.3 *de* Nominalization

As a multifunctional particle and one of the most frequently used words in Mandarin, *de* has been the focus of continuous studies. The current study focuses on its nominalizing functions. Despite of slight differences, Zhu (1961), Lu (1957), Li & Thompson (1989) and Guo (2000)² all consider *de* to be a nominalization marker.

Li & Thompson hold that a nominalized *-de* structure can “function either as a noun phrase or as a modifier of another noun” (1989, p. 576) and they also analyze the use of the structure after the copula verb *shi*, i.e., *shi...de* construction. In the analysis, *de* can be added after a verb, a verb phrase, a sentence or a portion of a sentence including the verb. Three examples are quoted as follows,

(10) zhezhongzhiwukeyi dang zuochide.

This type plant can take be eat NOM.

One can take this type of plant as food.

(11) zhongshuiguode hen nan guohuo.

Grow fruit NOMvery difficult make living.

It is difficult for fruit growers to make a living.

(12) women hezuo dewenti hen jiandan.

1PLcooperate NOMproblem very simple.

The problem concerning our cooperation is very simple.

A generalization can be made that *-de* is added to each of these verbs, phrases or sentences as a suffix-like nominalizer. However, their researches left out another type of *de* nominalization as exemplified as follows.

(13) zhe benshu de chuban hen you yiyi.

This CLAS bookNOM publish very have meaning.

The publication of this book is very meaningful.

(14) ta henguanxinzhe ben shude chuban.

3SGvery concern this CLAS book NOM publish.

He is very concerned about the publication of this book.

(15) ta de bulai rang women bugaoxing.

3SGNOMNEGcome make 1PLnot happy.

His not coming made us unhappy.

(16) laoshi pipingle ta de bulai.

Teacher criticize ASP 3SGNOMNEGcome.

The teacher criticized his not coming.

Structures like *zhe ben shu de chuban* in (13), (14) and *ta de bulai* in (15), (16) are the focal points of dispute in Chinese studies. Their nominal characterizations enable them to function as subjects as in (13), (15) and objects as in (14), (16). *The publication of the book* and *his not coming* are taken as events and take nominal syntactic roles as a whole. However, as some scholars argued and we reviewed in Part II, there seems to be a contradiction between the nominal nature of these structures on the whole and Bloomfield's generalization about Endocentric Constructions. The nominal treatment of *chuban* (publish) in the structure contradicts with the fact that typical predicate modifiers or adverbs like *bu* (not), *zhongyu* (finally), *fanfu* (repeatedly) can be added

² Guo (2000) holds that when a *de*-construction acts as a subject or an object, it undergoes a zero-marked conversion from modification to reference, thus a nominalization on the syntactical level.

before it. In (15) and (16), the predicate negator *bu* (not) is added to the so-called head of the overall nominal structure of *ta de lai* (his coming).

Instead of denying the applicability of *Endocentric Construction Theory* to Mandarin Chinese or modifying the theory to better accommodate peculiar Chinese language features as Zhu (1984) did, we propose a re-analysis of the structures like *zhe ben shu de chuban* and *ta de bulai* as actor-action or patient-action constructions instead of subordinative (or attributive) constructions and the inserted *de* is a nominalizing infix. With this proposal, an explanative model begins to emerge, which can be summed as (i) and (ii):

(i) Chinese actor-action or patient-action structures like *zhe ben shu de chuban* and *ta de bulai* are exocentric constructions, and, thusly, the structures belong to the form-class of none of their immediate constituents.

(ii) Beside functioning as a nominalizing suffix to verbs, adjectives and structures, *de* is also a nominalizing infix to these symbolic units.

The generalizations in (i) and (ii) account for vast number of nominalizations beyond the lexical level. The claim that structures like *zhe ben shu de chuban* and *ta de bulai* are exocentric constructions puts an end to the long discussion on the nominalization of the so-called head verbs (here refer to *chuban* (publish) and *lai* (come)) and the dilemma in the application of *Endocentric Construction Theory* to the research of Chinese grammar. Actually, *ta lai* (He comes) resembles Bloomfield's example for exocentric construction, *John ran. Ta lai*, just like *John ran*, is neither a nominative expression (like *ta* (he)), nor a finite verb expression (like *lai* (come)). Therefore, they cannot take the syntactic roles like subject or object directly. In *zhe ben shu de chuban*, *zhe ben shu* (this book) is the patient or outcome of *chuban* (publish) and, within the clause, it functions as the subject. Usually, we can use them in the following way:

(17) a. zheben shuzhongyuchuban le.

This CLAS book finally publish ASP.

This book was finally published.

b. zhe benshu de zhongyuchuban ling rengaoping.

This CLAS book NOM finally publish make people happy.

This book's final publication makes people happy.

With the usage of the nominalizing infix *de*, (17)a can be nominalized and function as the subject in (17)b with the verb *chuban* (publish) remains as a verb and being modified by the adverb *zhongyu* (finally).

VI. Conclusion

No scholar in the field of Chinese grammar could possibly neglect the issue of nominalization as it poses as a core challenge in grammar studies, no matter whether they hold a pro-nominalization view or a diametrically opposing one. The issue closely intertwines with the classification of Chinese words and their correspondence with syntactic roles. Starting from a brief observation of the theoretical as well as descriptive deficiencies in the studies conducted in the past century, we address the issue from the cognitive perspective and introduce a new concept, ontologicalization, into the study. Cognitive grammar does not differentiate nominalization on lexis or syntax and ontologicalization is the underlying conceptual mechanism for nominalization in general. In line with the generalization commitment of cognitive grammar, we hold that Mandarin and English share the same

cognitive mechanism with regard to nominalization despite of their varying morphological performances. The proposal supports a re-analysis of structures like *zhe ben shu de chuban* (the publication of this book) and *ta de bulai* (his not coming) as exocentric constructions and that *de* is a nominalizing infix. It is also shown that a massive number of zero-nominalization and ellipsis are two unique features of Chinese language.

References

- Anderson, J. M. (1971). *The grammar of case: Towards a localistic theory*. Cambridge: Cambridge University Press.
- Anderson, J. M. (1977). *On case grammar. Prolegomena to a theory of grammatical relations*. London: Croom Helm.
- Bloomfield, L. (1933). *Language*. London: Allen & Unwin.
- Bloomfield, L. (1983). *An introduction to the study of language*. Amsterdam, Philadelphia: John Benjamins Publishing Company.
- Chen, C. Z. (1922/ 1982). *Creation of Chinese grammar*. Beijing: The Commercial Press.
- Cheng, G. (1999a). *Language universals*. Shanghai: Shanghai Educational Publishing House.
- Cheng, G. (1999b). A new exploration on nominalization and endocentric construction. *Modern Foreign Languages*, 2, 128-144.
- Cheng, G. (1999c). Nominalization, endocentric construction, and hypothesis of article phrases. In J. M. Lu (Ed.), *Modern Chinese grammar studies meeting challenge of the new century* (pp. 165-179). Shandong: Shandong Education Publishing House.
- Chomsky, N. (1970). Remarks on nominalization. In Jacobs, R. A. and P. S. Rosenbaum. (Eds.), *Readings in English transformational grammar* (pp. 184-221). London: Ginn.
- Chomsky, N. (1970). Remarks on nominalization. In Jacobs, R. A. and Rosenbaum P. S. (Eds.), *Readings in English transformational grammar* (pp. 184-221). Waltham, Massachusetts, Toronto, London: Ginn and Company.
- Chomsky, N. (1995). *The minimalist program*. Cambridge, Massachusetts: The MIT Press.
- Gao, M. K. (1960). Speech on the science meeting of Peking University 1959. In Chinese language research center of Peking University (Eds.), *Linguistics Series 4* (pp. 253-271). Shanghai: Shanghai Educational Publishing House.
- Gazdar, G., & Pullum, G. (1981). Subcategorization, constituent order and the notion "head". In Moortgat, M., H. v. d. Hulst, & T. Hockstra. (Eds.), *The scope of lexical rules* (pp. 107-123). Dordrecht: Foris.
- Gazdar, G., Klein, E., Pullum, G., & Sag, I. (1985). *Generalized phrase structure grammar*. Oxford: Blackwell.
- Guo, R. (2000). The conversion of the expressional functions and an analysis of the particle *de* in Mandarin Chinese. *Contemporary Linguistics*, 1, 37-52.
- Guo, R. (2010). *A study on Chinese word classes*. Beijing: The Commercial Press.
- Hu, Y. S., & Fan, X. (1994). Nominalization of verbs and adjectives. *Studies of the Chinese Language*, 2, 81-85.
- Jin, Z. Z. (1922/1983). *A study of Chinese grammar*. Beijing: The Commercial Press.
- Lakoff, G., & Johnson, M. (2003). *Metaphors we live by*. London: The university of Chicago press.
- Langacker, R. W. (2004). *Foundations of cognitive grammar*. Beijing: Peking University Press.
- Li, C. N., & Thompson, S. A. (1989). *Mandarin Chinese: A functional reference grammar*. Berkeley and Los Angeles: University of California Press.
- Li, J. X. (1924/1955). *The new Chinese grammar*. Beijing: The Commercial Press.
- Li, J. X., & Liu, S. R. (1960). Re-analysis of grammar—Word classification and the issue of nouns. *Studies of the Chinese Language*, 1, 1-18.
- Liu, D. Q. (1994). A study on complementary words. *Chinese Language Learning*, 3, 23-27.
- Lu, J. M. (2003). A new approach to analysis on the Chinese "NP de (的) VP" construction. *Studies of the Chinese Language*, 5, 387-391
- Lu, J. M. (2003). Reanalysis of the "NP de (的) VP" structure. *Studies of the Chinese Language*, 5, 387-391.
- Lu, J. M. (2013). A discussion on "hierarchical inclusion of Chinese nouns, verbs and adjectives" and other things. *Journal of Sino-Tibetan Linguistics*, 7, 137-146.
- Lu, Z. W. (1957). *Chinese word-formation*. Beijing: Science Press.
- Lv, S. X., & Zhu, D. X. (1952). *Lectures on grammar and rhetoric*. Beijing: China Youth Press.
- Ma, J. Z. (1898/1983). *Ma's Grammar (Mashi Wentong)*. Beijing: The Commercial Press.
- Martinet, A. (1960). *éléments de linguistique générale*. Paris: Armand Colin.
- Matthews, P. H. (1981). *Syntax*. Cambridge: Cambridge University Press.

- Robert, S. (2003). Introduction: de la grammaticalization à la transcatégorialité. In Robert (Eds.), *Perspectives synchroniques sur la grammaticalization, Afriqueetlangage 5* (pp. 9-18). Louvain-Paris: Peeters.
- Shen, J. X. (2007). On nouns and verbs in Chinese. *Journal of Sino-Tibetan Linguistics, 1*, 27-47.
- Shen, J. X. (2009). On word classes in Chinese. *Linguistic Sciences, 1*, 1-12.
- Shen, J. X. (2010). On nouns and verbs in Chinese again. In Chinese language research center of Peking University (Eds.), *Linguistics Series 40* (pp. 3-22). Beijing: The Commercial Press.
- Shen, J. X. (2011). *Six lectures on grammar*. Beijing: The Commercial Press.
- Shi, D. X. (2004). Nominalization and the “de (的)” Structure. In Huang, Z. D. (ed.), *Linguistics Series 3* (pp. 78-92). Beijing: Beijing Language and Culture University Press.
- Shi, G. G. (1988). The endocentric structures and exocentric structures in Chinese. *Studies of the Chinese Language, 4*, 265-273.
- Shi, G.G. (1981). The part of speech of “chuban” in “zhe ben shu de chuban”—Starting from the endocentric structure theory. *Current Research in Chinese Linguistics, 4*, 8-12.
- Shi, Z. H. (1960). A study on the nominalization of Chinese verbs and adjectives. *Studies of the Chinese Language, 12*, 44-56.
- Si, F. Z. (2002). Marker “de (的)” and relative syntactic issues in Chinese. *Language Teaching and Linguistic Studies, 2*, 35-40.
- Si, F. Z. (2004). Endocentric construction theory and DeP in Mandarin. *Contemporary Linguistics, 1*, 26-34.
- Si, F. Z. (2004). Head theory and DeP in Chinese. *Contemporary Linguistics, 1*, 26-34.
- Wang, D. M. (2002). The Nature of Verb in “N的V” Structure. *Language Teaching and Linguistic Studies, 4*, 55-64.
- Wang, D. M. (2018). *On Chinese word classes*. Shanghai: Xuelin Press.
- Wang, D. M. (2004). An interpretation of verbal nominalization. *Chinese Language Learning, 4*, 5-11.
- Wu, C. A. (2006). Zhe ben shu de chuban: A challenge to Bloomfield’s theory of endocentric construction. *Contemporary Linguistics, 3*, 193-204.
- Wu, C. A. (2006). Zhe ben shu de chuban: A challenge to Bloomfield’s theory of endocentric construction. *Contemporary Linguistics, 3*, 193-204.
- Xiang, M. B. (1991). On the part of speech of “chuban” in “zhebenshu de chuban”. *Journal of Tianjin Normal University, 4*, 75-80.
- Xu, T. Q. (1994). “Word” and the methodology of the study of Chinese. *Chinese Teaching in the World, 3*, 1-14.
- Zhang, B. J. (1993). Components of the “N的V” structure. *Studies of the Chinese Language, 4*, 252-259.
- Zhou, R. (2012). “N de V” construction is “N de N” construction. *Studies of the Chinese Language, 5*, 447-457.
- Zhu, D. X. (1961). *Lectures on Grammar*. Beijing: The Commercial Press.
- Zhu, D. X. (1984). On endocentric structure. *Studies of the Chinese Language, 6*, 401-403.
- Zhu, D. X. (1984). On the definition of endocentric structure. *Studies of the Chinese Language, 6*, 401-403.
- Zhu, D. X. (1985). WV and NV in written Chinese. *Journal of Peking University, 5*, 1-6.
- Zhu, D. X., Lu, J. W., & Ma, Z. (1961). On the nominalization of verbs and adjectives. *Journal of Peking University, 4*, 53-66.
- Zipf, G. K. (1949). *Human behavior and the principle of least effort*. New York: Addison-Wesley.