A Phase-based Approach to Possessor-subject Possessee-object Sentence in Chinese

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Abstract—Possessor-subject possessee-object sentence is a particular construction with unique features in Chinese. Many studies have been carried out regarding its derivation and the status of the different nouns in the construction, i. e., the possessor, the possessee and the whole possessive phrase. It remains controversial whether Chinese Topic is base-generated or derived through movement. Based on the Phase Theory of Minimalism, this paper re-examines some Chinese possessor Topic Constructions. It is proposed that before the possessor movement the possessor and the possessee are base-generated in the same DP. When this DP is not in the edge position of a Phase, that is, not in Spec-CP or Spec-v*P, the possessor can move to the Topic position. Namely, the possessor is moved to its final landing site (i. e. Spec-TopicP) from inside the possessive phrase, and the reason for its movement lies in the need for the checking of Topic feature. Otherwise, owing to the violation of the Specifier Condition, the derived construction will be ill-formed. As to T's EPP feature, we propose that it is checked and eliminated via long-distance agreement by the in-situ possessor phrase. This new perspective provides evidence for the hypothesis that Chinese Topic is derived through movement.

Index Terms—possessor-subject possessee-object sentence, topic, phase, move, Specifier Condition

I. INTRODUCTION

Possessor-subject possessee-object sentence is a particular construction with unique features in Chinese, which is one of the hot topics in language research. This special sentence was noticed, discussed and researched centering on its properties and characteristics in around the nineteen fifties in Chinese grammar field (see Xu, 1956). In the light of Guo (1990), possessor-subject possessee-object sentence refers to sentences in (1).

(1) a. Wangmian si-le fuqin.

Wangmian die father

Wangmian's father died.

b. gongchang dao-le yi-mian qiang.

factory collapse a wall

A wall of the factory collapsed.

c. Zhangsan lan-le yi-kuang li.

Zhangsan rot away one basket of pears

One basket of pears of Zhangsan rotted away.

d. najia gongsi chen-guo yi-tiao chuan.

that company sink a ship

That company sank a ship.

This kind of sentence has a relatively stable relationship of "possessor-possessee". It seems that the subject is "possessor" and the object is "possessor". At the same time, predicate verb of the sentence is an unaccusative verb¹, which has no is no direct semantic relationship with the subject. However, there are some problems if possessor and possessee are analyzed into subject and object. First of all, Object cannot be followed after unaccusative verbs, as a result, it is not appropriate to construe possessee as the object. Secondly, from the perspective of meanings, the relationship between possessor and the verb is not the subject-verb relationship, and the relationship between possessee and the verb is not the verb-object relationship.

Based on a Phase-based approach, this paper is to propose an analysis of possessor-subject possessee-object sentence in Chinese under the framework of MP. The paper consists of four chapters. After the introduction in Chapter 1, the second chapter is about the literature review: previous research findings by researchers home and abroad as well as their deficiencies. Analysis and discussions are implemented in the third chapter. The final chapter serves as the conclusion of the paper.

II. LITERATURE REVIEW

Many studies have been carried out regarding possessor-subject possessee-object sentence derivation and the status

¹ Unaccusative verb mainly refers to non-causative verb that expresses meanings of changes of state, such as "appearance", "disappearance", "existence" and so on. For the detailed analysis, see Yang (1999); Wen (2002).

of the different nouns in the construction, i. e., the possessor, the possessee and the whole possessive phrase. These studies, however, still have some shortcomings in various aspects.

The inquiry into possessor-subject possessee-object sentence mainly relates to two issues: the source of possessor noun and the Case of possessee noun. In the literature, there are mainly four analyses. The first analysis maintains that possessor noun is moved from the possessive phrase to the position of subject (Xu, 1999, 2001; Han, 2000). The second one argues that possessor noun is not the argument of unaccusative verb, rather it is the external argument of the light verb "v", it is moved to the position of subject in the course of syntax derivation (Zhu, 2005). The third one assumes possessor noun is a dangling topic, which is base-generated in the position of surface structure. It has simply a semantically licensing relation with the following predicate constituent (P&Han, 2005). The fourth one is Generalized Control Rule put forth by Huang (1984, 2009) The detailed reviews are as follows.

A. Hypothesis of Raising

Xu (1999, 2001) and Han (2000) researched in the structures of (1) under the framework of Government and Binding Theory. They maintain that possessor noun is moved out of the possessive structure to the position of subject in the course of syntax derivation. As a result, (1 a-b) has the form in D-structure, as illustrated in (2 a-b):

(2) a. [VP si-le Wangmian de fuqin]

[VP die Wangmian's father]

b. [VP dao-le gongchang de yi-mian qiang]

[VP collapse factory's a wall]

According to Burzio's Generalization (Berzio, 1986): (i) A verb which lacks an external argument fails to assign accusative Case. (ii) a verb which fails to assign accusative Case fails to theta-mark an external argument. The sole argument that unaccusative verb can take is the deep object, which cannot be assigned the accusative Case. Xu (1999, 2001) and Han (2000) proposed two choices in order to meet the need of Case theory. One choice is to raise the whole possessive phrase to the position of subject so as to get nominative Case. The other choice is to raise possessor itself to the position of subject to get nominative Case, while possessee remains in situ and gets its Case in another way. For example:

(3) Zhangsan diao-le liang-ke menya.

Zhangsan lose two front tooth

Zhangsan has lost two front teeth.

The D-structure of (3) is (4).

(4) [e diao-le [Zhangsan de liang-ke menya]]

[e lose [Zhangsan's two front teeth]]

In (4), "diao" (lose) is an accusative verb that cannot assign neither external theta roles nor case to the internal argument. So the complement "Zhangsan de liang-ke menya" (Zhangsan's two front teeth) have to move elsewhere in order not to violate Case Filter. There are two ways as illustrated in (5).

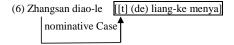
(5) a. [Zhangsan de liang-ke menya]_i diao-le t_i.

[Zhangsan's two front teeth]_i lose t

b. [Zhangsan]_i diao-le [t_i liang-ke menya]

[Zhangsan]_i lose [t_i two front teeth]

In (5a), the whole possessive phrase is raised to the position of subject so as to get nominative Case. In (5b), only possesor "Zhangsan" raises to the position of subject, possessee "liang-ke menya" (two front teeth) remains in situ. Xu (1999, 2001) thought (5a) was a common movement in human language that was no need to explain. As for (5b), it was a unique movement in Chinese and should be explained further. He put forward the hypothesis of Possessor Raising Movement with regard to (5b). He claims that though the unaccusative verb cannot assign accusative Case to the whole complement, it assigns inherent partitive Case to the possessee NP. Han (2000) agrees to the hypothesis of Possessor Raising Movement, but argues against inherent partitive Case to the possessee NP and put forth a Case transmission proposal, that is, the possessor NP transmits the Case it is assigned at the subject position back to the whole complement possessee NP through the chain resulting from the raising operation, as illustrated in (6).



In terms of his analysis, "Zhangsan" has genitive Case in D-structure, it moves to the position of subject in order to make the whole possessive phrase get Case. Possessor NP "Zhangsan" first leaves its genitive Case in situ, and then raises to the position of subject to get nominative Case, next it transmits nominative Case through chain to the whole possessive phrase "trace e (de) + possessee NP".

However Han's Case transmission hypothesis still has some problems. For one thing, in the framework of MP, movement is a self-serving, i.e., one constituent simply moves for the sake of itself (Chomsky 1995, 201, 261). Now that possessor NP has got the Case in its original place, there is no reason for it to move to meet the need of other constituent. Apart from that, the purpose of movement operation is to check some kind of feature in the target position,

and this operation cannot make the moved constituent get some feature, and then transmits to the third party. For another, in MP, lexicon is born with formal features that are carried by different constituents, including Case feature. There is feature match or mismatch between different constituents and it is impossible to transmit features between them.

B. Hypothesis of External Argument of v

Zhu (2005) argues that possessor NP is the external argument of light verb "v", which is put forth by Huang (1997). "v" is EXPERIENCE (EXP) when possessor NP has the property of [+animate], while it is OCCUR (OCC) when possessor NP has the property of [-animate]. In line with his analysis, (1 a-b) has D-structure as shown in (7 a-b).

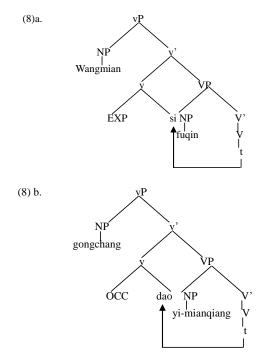
(7) a. [vP Wangmian EXP[VP fuqin. si-le]]

[vP Wangmian EXP[VP father. die]]

b. [vP gongchang OCC[VP yi-mian qiang dao-le]]

[vP factory OCC[VP a wall collapse]]

The derivation of (1 a-b) is illustrated in (8 a-b).



Zhu (2005) assumes that light verb "v" is a two-place light verb, which selects possessor NP "wangmian" and "gongchang" as the subject of the sentence and assigns them the theta role of experiencer. At the same time, light verb "v" selects VP "fuqin si-le" and "yi-mian qiang dao le" as the complement. However in his analysis, Zhu does not mention the Case of possessee NP. In (8a-b), there is no verb-object relation between "fuqin" and EXP, "yi-mian qiang" and OCC, so "fuqin" and "yi-mian qiang" cannot get accusative Case, which is compulsory due to Case Filter: each noun should have a Case.

C. Hypothesis of Base-generated

Pan&Han (2005, 2008) put forth that possessor NP is not a subject but a "dangling topic" construction. There will be a semantic gap because the semantics of predicate does not saturate, so the subject position of TP is an empty constituent "e", as illustrated in (9). This semantic gap amounts to a variable, which can license the topic that is located in the beginning of the sentence.

(9) a. [TopicP wangmian[TP e si-le fuqin]]

[TopicP wangmian[TP e die father]]

b. [TopicP gongchang [TP e dao-le yi-mian qiang]

[TopicP factory [TP e collapse a wall]

Pan&Han (2005, 2008) holds that there is no syntactic dependency between constituents of predicate TP and possessor NP, which acts as a topic. They license each other by relying on semantic relations. Possessee NP can get the structural features, including nominative Case in the empty subject of predicate TP, which is the default position for possessee NP.

With regard to the reason of possessee NP getting the Case after the verb, Pan&Han (2005, 2008) argue that the unaccusative verbs in Chinese have the ability to assign nominative Case backward, so possessee NP is assigned

nominative Case, which is different from English language. There is a fatal problem in their analysis in this way: we can simply infer that feature checking in some structure (unaccusative construction) of some language (Chinese) is not limited to the relation of Spec-head, because unaccusative verb and possessee NP is not the relation of Spec-head in structure, while in other languages, nominative Case is assigned by functional words depending on Spec-head relation, which is common in the framework of MP. This kind of analysis does not accord to the spirit of "economy" in MP, in the meantime, it violates the spirit of pursuit of universality of contemporary syntax theory.

D. Generalized Control Rule

Now that possessor NP is moved from possessive phrase, it will be restricted by some syntactic rules. Huang (1984, 2009) put forward Generalized Control Rule to construe the movement of possessor NP.

(10) Generalized Control Rule

The empty pronominal co-refers to the closest noun. (Huang, 1984)

Sentence (15) can be explained by (14).

(11) Zhangsan_i, [[e_i baba] hen you qian]

Zhangsan_i, [[e_i father] very better off]

Zhangsan's father is better off.

When "Zhangsan" moves out of possessive phrase, it leaves a trace, which co-refers to the closest noun "Zhangsan" and the whole sentence is grammatical.

But Generalized Control Rule cannot explain the ungrammaticality of the topic sentence (12), which also contains a possessor NP and a possessee NP.

- (12) *²Zhangsan nvpengyou a, [[e_i baba] sha-le henduo ren].
 - * Zhangsan girlfriend father kill many people
 - * Zhangsan's girlfriend, father killed many people.

In (12), possessor NP "Zhangsan nv pengyou" also moves from possessive phrase and leaves a trace, however, the trace does not co-refer to the closest noun "Zhangsan nv pengyou" and the whole sentence is ungrammatical.

III. ANALYSIS AND DISCUSSIONS

Up to now, focuses on Chinese possessor-subject possessee-object sentence mainly relate to two points: a) Is possessor NP a subject or a topic? b) Is it base-generated or generated by movement? We intend to study the two questions from the perspective of phase derivation in MP. We argue that Chinese possessor-subject possessee-object sentence is generated by movement and possessor NP is a topic and then we will discuss the derivation of it.

A. Possessor NP Is a Topic

Chinese is a topic-prominent language. There are controversies of topic judgment. We are going to employ Cao's (2005) view and regard possessor NP is a topic. Cao (2005) put forth criteria of judgment of Chinese topics.

- (13) a. Topic always occupies the initial position of S of the first clause in the topic chain.
 - b. Topic can be separated from other parts of a sentence by adding pause particles, such as "a, ya, ne, mo, ba".
 - c. Topic is always definite.
 - d. Topic is a discourse notion, it can often extend its semantic governing domain to more than one clause.
 - e. Topic controls all pronominalization or coreferential NP deletion in the topic chain.
- f. Topic, unless it is a subject in the meantime, does not participate in true reflexivization, equi-NP deletion and imperativization.

From those criteria, we can judge that sentences in (1) are possessor topic sentences. We take sentence (1a) for example to construe, sentence (1a) is repeated in (14).

(14) Wangmian si-le fuqin.

Wangmian die father

Wangmian's father died.

In (14), "wangmian", which is definite, occupies occupies the initial position of the sentence. It separates from possessee NP "fuqin" and it can be separated from other parts of the sentence by adding pause particles, as illustrated in (15).

(15) Wangmian a, si-le fuqin.

Wangmian a, die father

Wangmian's father died.

From mentioned above, we may reasonably conclude that possessor NP "wangmian" is the topic of the sentence.

B. Possessor NP Is Moved from Possessive Phrase as a Topic

We maintain that possessor NP is moved from possessive phrase to the topic position of the sentence. Our view is mainly on the basis of two reasons. First of all, Movement hypothesis can explain why possessor NP and possessee NP have strict semantic selection relation straightforwardly. Second, studies of other languages also attest that possessor NP

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² * signifies that the sentence is ungrammatical.

raising is not the sole phenomenon in Chinese. It also exists in some other languages. Example (16) is taken from Szabolcsi (1994) and Chung (1991) respectively.

(16) a. Ki-nek_i ismer-t étek [DP t_i a vend ég- é ø-t] (Hungarian)

who know guest Whose guest did you know?

b. Hayi_i un-yuland [DP munika-na t_i] (Chamarro)

who break doll Whose doll did you break?

In (16), "Ki-neki" (who) in Hungarian and "Hayi" (who) in Chamarro belongs to possessor NP and moves out of possessive phrase, the whole sentences are grammatical.

C. A Phase-based Approach to Possessor-subject Possessee-object Sentence

From mentioned above, we have made clear that possessor NP is a topic, which is moved out of possessive phrase. Then we will discuss the derivation of possessor-subject possessee-object sentence in the framework of Split CP Hypothesis and phase derivation.

Rizzi (1997) put forth Split CP Hypothesis, which points out CP can be split into a series of projections: ForceP>TopicP>FocusP>TopicP>FinP>TP. (Radford, 2004, 327) On the basis of that, we maintain that Chinese possessor-subject possessee-object sentence has the projection like this: TopicP>TP>vP> VP.

The phase theory has an inspiration to explain possessor-subject possessee-object sentence. We mention Generalized Control Rule cannot explain the ungrammatality of the topic sentence (12), which also contains a possessor NP and a possessee NP. So possessor NP sometimes acts as a Topic and sometimes it does not, it is an issue that deserve to study. We will repeat (12) in (17a) to compare it with possessor-subject possessee-object sentence (17b) and render reasonable explanations of them.

(17) a. *Zhangsan nvpengyou a, [[e_i baba] sha-le henduo ren].

* Zhangsan girlfriend father kill many people * Zhangsan's girlfriend, father killed many people.

b. Wangmian si-le [e_i fuqin].

Wangmian die father

Wangmian's father died.

We observe that in (17), one of the differences is the different predicates: in (17a), the predicate is a transitive verb "sha-le" (kill) in (17a), while the predicate is an unaccusative verb "si-le" (die) in (17b). From the perspective of phase theory, vP that contains an accusative verb is not a phase³, but vP that contains a transitive verb constitutes a phase. Chomsky's (2008, 148) put forth movement condition and Radford (2009, 410) names Chomsky's (2008, 148) movement condition as "Specifier Condition", which illustrated in (18).

(18) Specifier Condition: No subextraction is possible out of a constituent which is a specifier of a phase head.

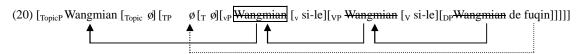
In the light of Specifier Condition, we can analyze the ungrammaticality of (17a) and grammaticality of (17b).

In (17a), the verb has transitivity and form a v*P phase, which express the complete proposition. The possessive phrase "Zhangsan nypengyou de baba" is base generated at the edge of the phase-Spec-v*P, as illustrated in (19).



Topic and T can be probes to detect their goals at the same time. T attracts the copy of "Zhangsan nvpengyou de baba", which bears [Case] feature, to Spec-TP. In the meanwhile, Topic is about to attract "Zhangsan nvpengyou" that has [Topic] feature to Spec-TopicP. Since the possessor NP "Zhangsan nvpengyou" occupies spec-v*P in (19) and hence is the specifier of the phase head v*, the Specifier Condition (18) prevents the possessor NP from being subextracted out of it. As a result, (17a) is ungrammatical.

As for (17b), which is illustrated in (20), the light verb "v" attracts possessor NP "wangmian" to the position of Spec-vP because "v" has the edge feature. Topic and T can be probes to detect. The goal of Topic is "Wangmian" and the goal of T is "fuqin". In terms of "intervention condition": probe and its goal cannot establish agreement relation if there is some other element that needs to be checked, T cannot establish agreement relation with its goal "fuqin", which bears [Case] feature because.



³ According to Chomsky (2001) vP that takes an external argument is a phase. A unaccusative verb cannot take an external argument, so is not a phse.

Agreement feature is also called Φ features, which refers to person, number and gender.

"Wangmian" is located between them. As a result, Topic's probe should precede T's probe, and "Wangmian" that bears [Topic] feature is moved to the position of Spec-Topic, the uninterpretable feature of Topic in Spec-Topic is eliminated. And then, T probes "fuqin" as its goal to eliminate its EPP feature through long-distance agreement (the part of dotted line in (20)). The EPP feature in Chinese is the weak feature and may not allow the lexical elements to fill in, so "fuqin" can remain in situ. All uninterpretable features have been eliminated thus far. The extraction of "Wangmian" from Spec-vP does not violate Specifier Condition because vP does not constitute a phase, so (17b) is grammatical. There are a number of copies of "Wangmian" in the course of derivation. "Wangmian" that is located in the position of Spec-TopicP is spelt out because of the requirement of economy in PF level. "de" that acts as an affix is dropped because "Wangmian" is moved to Spec-TopicP and it has no target to attach.

IV. CONCLUSION

Possessor-subject possessee-object sentence is a particular construction with unique features in Chinese. Many studies have been carried out regarding its derivation and the status of the different nouns in the construction, i. e., the possessor, the possessee and the whole possessive phrase. It remains controversial whether Chinese Topic is base-generated or derived through movement. This paper employs phase theory and the Specifier Condition to construe the derivation of Chinese possessor-subject possessee-object sentence. We maintain that possessor NP is a topic, which is moved out of the possessive phrase. Possessor NP and possessee NP is in the same DP before the movement of possessor NP to the position of Topic. Possessor NP can be moved to the position of Topic when it is not at the edge of a phase, i.e. it can be moved when it is not in the position of Spec-v* and Spec-C, otherwise the movement of it will be illegal because of the constraint of Specifier Condition. This paper can explain why possessor NP sometimes may act as a Topic and sometimes it may not in a better way. When possessor NP is not in the edge position of a Phase, that is, not in Spec-CP or Spec-v*P, the possessor can move to the Topic position. Namely, the possessor is moved to its final landing site (i. e. Spec-TopicP) from inside the possessive phrase, and the reason for its movement lies in the need for the checking of Topic feature. Otherwise, owing to the violation of the Specifier Condition, the derived construction will be ill-formed. As to T's EPP feature, we propose that it is checked and eliminated via long-distance agreement by the in-situ possessor phrase. This paper provides evidence for movement of Chinese possessor-subject possessee-object sentence from the perspective of phase theory in MP.

ACKNOWLEDGEMENT

This research is funded by Southwest University of Political Science and Law, P.R.C. Project Name: Exploration of Biological Features of Generative Grammar: from the Perspective of Biolinguistics (No. 2011—XZQN27).

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