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On the Applicability of PF Deletion to Argument Ellipsis in Qiang

Chen Yunwen

1. Introduction

It is observed that ellipsis constructions with a fronted phrase remain grammatical in Qiang, as shown in (1b). The ellipsis sentence preserves the same structural pattern as its antecedent clause. Under a PF-deletion approach, the ellipsis site is assumed to retain syntactic structure identical to that of the antecedent. Therefore, the grammaticality of these constructions may provide evidence for a PF-deletion analysis.

(1)

a. ləɣʐ tʰe-pen$_i$, Zhangsan-wu dʑi [Lisi t_i zə-p] wa.
book that-CL$_i$, Zhangsan-AGT say [Lisi t_i DIR-buy] SFP.
'that book, Zhangsan said that Lisi bought it.'

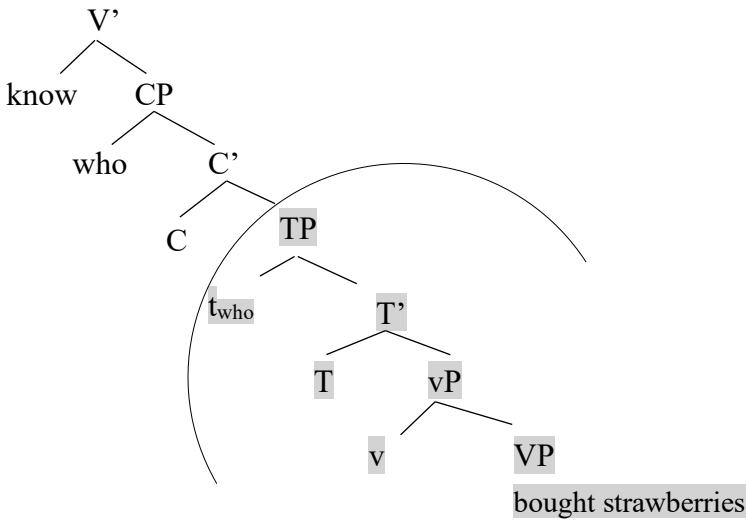
b. ləɣʐ tʰe-pen$_i$, Wangwu lə e-dʑi **Δ** wa.
book that-CL$_i$, Wangwu also DIR-say **Δ** SFP
'that book, Wangwu said that (Lisi bought it) too.'

c. ləɣʐ tʰe-pen$_i$, Wangwu lə e-dʑi ~~[Lisi t_i zə-p]~~ wa.
Book that-CL$_i$, Wangwu also DIR-say ~~[Lisi t_i DIR-buy]~~ SFP
'that book, Wangwu said that (Lisi bought it) too.'

Ross (1967, 1969) first explored PF deletion as its pre-PF work, further developed by Lasnik (1999), Merchant (2001, 2004), Johnson (2001), Tomioka (2008), Gengel (2005, 2007), Van Craenenbroeck (2010), Aelbrecht (2010) and many others. In this account, the full-fledge structures remain in the elliptical site and its LF representation has no much change compared with its non-elliptical counterparts. Only the phonological unreleasing differs the elided site from the non-elliptical one. The sluicing example in (2) is used to illustrate the basic assumption of PF-deletion, namely that the full syntactic structure remains in the ellipsis site and only the phonological content is deleted at PF.

(2) a. Someone had bought strawberries, but I don't know who.

b. But I don't



On the contrary, the Japanese counterpart will be ungrammatical, as Shinohara (2006) argued. This ungrammaticality cannot simply be attributed to the presence of a trace, since traces may also appear inside deleted constituents, as in sluicing constructions such as (4). Therefore, another account is required to explain the contrast.

(3)

a*.	sono hon -o_i	Taroo-wa	[Hanako-ga	t_i	katta	to]	itta si,
	that book-ACC	Taroo-TOP	[Hanako-NOM	t_i	bought	that]	said and
b.	sono hon -o_j	Ziroo-mo	***Δ***	itta			
	that book-ACC	Ziroo-also	***Δ***	said			

'Taroo said that Hanako bought that book, and Ziroo also said that she bought that book.'

(4). John bought something, but I don't know what$_i$ ~~[John bought t_i]~~

To account for this contrast, an alternative analysis based on LF-copying has been proposed and interpret its ungrammaticality well follow the spirit of Saito (1989) and Tada (1993), which argued that the extracted element would return back to the trace position in LF. Under this argument, the ungrammaticality can be interpreted as having two objects in LF, when the antecedent site with returned-back element is LF-copied to the elided one in second conjunct, shown as (5). Based on this analysis, this sentences becomes the evidence for supporting LF-copy.

(5)

a.*	sono hon -o_i	Taroo-wa	[Hanako-ga	t_i katta	to]	itta	si,
	that book-ACC	Taroo-TOP	[Hanako-NOM	t_i bought	that]	said	and

b.*	**sono hon -o_j**	Ziroo-mo				
	that book-ACC	Ziroo-also				
	[Hanako-ga	**sono**	**hon -o**	katta	to]	itta
	[Hanako-NOM	that	book-ACC	bought	that]	said

However, whether the grammaticality of ellipsis constructions with fronted phrases truly supports a PF-deletion analysis still requires further investigation. In order to address this question, this paper has two main goals: i) to demonstrate that the fronted phrase is derived through movement from the embedded clause, and ii) to examine whether ellipsis constructions remain grammatical when such movement-derived structures serve as their antecedents.

To accomplish the first goal, three diagnostics are employed. Section 2 investigates island sensitivity, showing that the fronted phrase is subject to island constraints and therefore derived from the embedded clause rather than base-generated in the matrix clause. Section 3 examines weak crossover repair, demonstrating that movement changes the c-command relation between the antecedent and the pronoun. Section 4 discusses reflexive binding variation, showing how the interpretation of the reflexive changes along the movement path of the fronted phrase.

Crucially, the ellipsis constructions in both weak crossover repair and binding variation contexts remain grammatical. This suggests that the movement-derived configurations found in the antecedent clause are preserved in the ellipsis site, providing support for a PF-deletion analysis. Finally, Section 5 concludes the paper.

2. Island sensitivity

Island constraints are known to restrict extraction dependencies involving gap positions. In such dependencies, a fronted phrase is interpreted together with a lower gap position inside the embedded clause, forming a filler-gap dependency. When the gap position occurs inside an island structure, extraction becomes ungrammatical by preventing phrase from moving front of sentence. This is illustrated by wh-movement in English, as shown in (6). The ungrammaticality of extraction from a relative-clause island indicates that island structures block the movement of a wh-phrase from its base position to the sentence-initial position.

(6)

a. wh-movement

What does Susan think that John bought __? b.

relative-clause island

*What did you meet [the scientist who invented __]?

As shown above, if sentences with a fronted phrase become ungrammatical when the gap position occurs inside an island structure, this suggests that the fronted phrase originates inside the embedded clause rather than being base-generated in the matrix clause. Based on this, this section examines whether the fronted noun phrase in Qiang exhibits island sensitivity and thus whether it is derived through movement from the embedded clause. Relative-clause islands, complex NP islands, and coordinate structure islands are employed as diagnostics, and the relevant Qiang examples are presented below.

(7) Basic line (cf.(1a))

ləɣʐ̩	tʰe-pen$_i$,	Zhangsan-wu	dʑi	[Lisi	t_i	zə-p]	wa.
book	that-CL$_i$,	Zhangsan-AGT	say	[Lisi	t_i	DIR-buy]	SFP.

'that book, Zhangsan said that Lisi bought it.'

(8) Relative clause island

a.*	ləɣz	tsə-pən$_i$	Zhangsan	e-dʑi	[t_i	zə-p	mi	taχ]
	book	DEM-CL$_i$	Zhangsan	DIR-say/mention	[t_i	DIR-buy	person	those]

'This booki, Zhangsan mentioned those people who bought ti'

b.*	ləɣz	tsə-pən$_i$	Wangwu	lə	e-dʑi	***Δ***
	book	DEM-CL$_i$	Wangwu	also	DIR-say/mention	***Δ***

'This book, Wangwu also mentioned ***Δ***.'

(9) Complex NP island

a.	[ləɣz	tsə-pən]$_i$,	Zhangsan	e-dʑe-dʑi	
	[book	DEM-CL]$_i$	Zhangsan	DIR-say-EXP	
	[Lisi	[t_i	sə-lie	ʐ̩okoʂ]	zə-p]
	Lisi	[t_i	DIR-buy	bag]	DIR-buy

'*This book$_i$, Zhangsan have said that Lisi bought the bag that contains t_i.'

b.*	[ləɣz	tsə-pən]$_i$,	Wangwu	lə	e-dʑe-dʑi	***Δ***
	book	DEM-CL$_i$	Wangwu	also	DIR-say	***Δ***

'This book$_i$, Zhangsan have said that ***Δ***, too.'

(10) Coordinated Structure Island

a.*	ləɣz	tsə-pən$_i$	Zhangsan	e-dʑi	[Lisi pi ŋa	t$_i$ zə-p]
	book	DEM-CL$_i$	Zhangsan	DIR-say	[Lisi pen CONJ	t$_i$ DIR-buy]

'This book(i), Zhangsan have said that Lisi bought pen and e.'

b.*	[ləɣz	tsə-pən]$_i$,	Wangwu	lə	e-dʑedʑi ***Δ***
	[book	DEM-CL]$_i$	Wangwu	also	DIR-say ***Δ***

'This book$_i$, Zhangsan have said that ***Δ***, too.'

As shown above, the ungrammaticality of (8)-(10) indicates that the fronted noun phrase participates in an extraction dependency involving a lower gap position inside the embedded clause. Since extraction becomes impossible when the gap position occurs inside an island structure, this suggests that the fronted noun phrase originates inside the embedded clause rather than being base-generated in the matrix clause.

However, island sensitivity is not the only diagnostic for movement. Another way to test whether the fronted noun phrase is genuinely movement-derived is to examine whether its movement affects c-command relations. The repair of Weak crossover (WCO) provides such a diagnostic.

3. The Repair of Weak crossover (WCO)

Weak crossover (WCO) refers to a configuration in which a pronoun c-commands its coindexed antecedent, resulting in an unacceptable interpretation. In such cases, the structural relation between the pronoun and the antecedent cannot be properly established.

(11)

a. [everyone$_i$ [t$_i$ loves his$_i$ mother]].

b. [who$_i$ [t$_i$ loves his$_i$ mother]].

c. *[everyone$_i$ [his$_i$ mother loves t$_i$]].

d. *[who$_i$ [his$_i$ mother loves t$_i$]].

In (11c) - (11d), the pronoun c-commands the antecedent from its original position, resulting in an unacceptable interpretation. Importantly, the unacceptability remains even when the antecedent moves to the sentence-initial position, as in (11d). However, the Japanese data from Yoshimura (1989) shows the possibility of weak crossover repair by the movement of antecedent as shown below.

(12)

a.?*	[Taroo-wa	[Hanako-ga	e$_i$	yomu	mae-ni]
	Taroo-Top	Hanako-NOM	e$_i$	read	before]
	[dono	hon-o$_i$	yonda]]	no?	
	[which	book-ACC	read	Q	

'[Taroo [read which booki] [before Hanako read ei]]?'

b. dono hon-o$_i$ [Taroo-wa [Hanako-ga e$_i$ yomu mae-ni]
which book-ACC [Taroo-TOP [Hanako-NOM e$_i$ read before
[t$_i$ yonda]] no?
[t$_i$ read]] Q
'Which book$_i$, [Taroo [read t$_i$] [before Hanako read e$_i$]]?'

In a typical weak crossover configuration, as shown in (12a), the wh-in-situ phrase ‘dono hon’ (‘which book’) does not c-command the empty coindexed pronoun at its base position. As a result, binding fails, yielding ungrammaticality. In contrast, when the wh-phrase undergoes movement to the sentence-initial position, as in (12b), it comes to c-command the pronoun, and the sentence becomes acceptable. This contrast indicates that the availability of binding depends on whether the wh-phrase occupies a position from which it c-commands the pronoun at LF (Hoji 1985; Saito 1985).

The Qiang data below show the same type of weak crossover repair in (13). When the fronted phrase appears in the sentence-initial position, the sentence becomes grammatical, suggesting that the fronted phrase occupies a position from which it c-commands the pronoun in LF.

(13)

a*. [*pro$_i$* ke-tse] Zhangsan dʑi Lisi [leɣz tse-pen]$_i$ zə-p.
pro$_i$ DIR-read Zhangsan say Lisi book DEM-CL DIR-buy
‘Zhangsan who read *pro* said that Lisi bought this book.’

b. [leɣz tse-pen]$_i$, [*pro$_i$* ke-tse] Zhangsan dʑi Lisi t$_i$ zə-p.
book DEM-CL *pro$_i$* DIR-read Zhangsan said Lisi t$_i$ DIR-buy
‘[This book]$_i$, Zhangsan who read pro said that Lisi bought t$_i$].’

Even in the interrogative sentences (14), the same pattern is observed. The in-situ wh-phrase cannot c-command the empty pronoun in its base position. However, once the wh-phrase moves to the sentence-initial position in the matrix clause, the sentence becomes acceptable, which parallels to the Japanese data.

(14) Wh-in-situ

a. ge tɕalakuai: le-n na?
2sg where live-2sg Q?
‘where do you live?’

b. Zhangsan ləɣz ɳila pən zə-p?
Zhangsan book which CL DIR-buy?
‘Which book did Zhangsan buy?’

(15) Weak Crossover

a.*?	Zhangsan	gən	[Lisi	[e_i	tse	geɪ]
	Zhangsan	ask	[Lisi	[e_i	read	before]
	[ləɣz	ŋ̊ila	pən]$_i$	zə-p]?		
	[book	which	CL]$_i$.	DIR-buy]?		

'Zhangsan asks which book Lisi bought ti before he read e_i?'

b.	[ləɣz	ŋ̊ila	pən]$_i$	Zhangsan	gən	[Lisi	[e_i	tse	geɪ]
	[book	which	CL]$_i$	Zhangsan	ask	[Lisi	[e_i	read	before]
	ti	zə-pu]?							
	[ti	DIR-buy]?							

'Which booki Zhangsan asks that Lisi bought ti before he read e_i.'

Crucially, when (15b) serves as the antecedent for an elliptical conjunct, as in (16), the second conjunct remains grammatical. This suggests that the c-command relation reset by movement is preserved under ellipsis, giving the empirical support to the analysis of PF-deletion.

(16)

a.	[ləɣz	ŋ̊ila	pən]$_i$	Wangwu	lə	gən	***Δ***
	[book	which	CL]$_i$	Wangwu	also	ask	***Δ***

b. ~~Wangwu lə gən [Lisi [ei tse geɪ] ti zə pu]?~~

~~Wangwu also ask [Lisi [e_i read before t_i DIR-buy]~~

In this section, I showed that repair of Weak crossover provides evidence that the fronted phrase in Qiang is derived by movement from the embedded clause. The crucial point is that the sentence becomes acceptable only when the relevant phrase is fronted to a position from which it can c-command the pronoun. Furthermore, the grammaticality of the corresponding ellipsis constructions suggests that this movement-derived c-command relation is preserved under ellipsis, supporting a PFdeletion analysis.

The next section further examines the movement analysis by considering reflexive binding variation. If the fronted phrase is indeed movement-derived, its movement is expected to affect not only ccommand relations, but also the interpretation of reflexive binding.

4. Binding variation of reflexive movement

Reflexive binding follows Principle A of Binding Theory, which requires an anaphor to be locally bound within its domain. As a result, long-distance binding is generally not permitted in English. As (18)showed that the 'Mary' in matrix clause (TP_1) cannot achieve long-distance binding 'herself' in the embedded clause (TP_2) located in different binding domains.

(17) Principle A:

An anaphor (e.g. a reflexive or reciprocal) must be bound in its domain.

(18) a. Mary like the picture of herself.

b. *[$_{TP1}$ Mary$_i$ said that [$_{TP2}$ Joe liked these pictures of herself$_i$]]

In contrast, Battistella and Xu (1990) observed that in Chinese, a reflexives can not only bound by its local subject but also long-distance bound by the matrix subject, excluded by an intermediate subject. This pattern is referred to as the "matrix clause effect". In the (19), the embedded reflexive 'ziji'('self ') can be bound not only by the matrix subject *John*, but also by its local subject *Bill*.

(19)	John$_j$	yiwei$_i$	Jack$_k$	zhidao	Bill$_i$	bu	xiangxin	ziji$_{j/*k/i}$
	John	think	Jack$_k$	know	Bill$_i$	not	believe	self

'John thinks Jack knows that Bill doesn't believe himself.'

Before discussing long-distance binding and binding variation in Qiang, it is necessary to exhibit the basic binding properties of the reflexive. As shown in (20), the reflexive 'ŋ̟itɕuku'('self ') in simple sentence in Qiang can refers either to the local subject Lisi or to the discourse-external third person, marked as 'g'. Note that the reflexive 'ŋ̟itɕuku' ('self ') remain bound by the local subject 'Lisi' when it moves to the sentence-initial position.

(20)

a.	Lisi($_i$)	ŋ̟itɕuku($_{i/g}$)	tə-ʁua	wa.
	Lisi	self	DIR-help	PRT

'Lisi helped himself.($_{i/g}$).'

b.	ŋ̟itɕuku($_{i/g}$)	Lisi($_i$)	tə-ʁua	wa.
	self	Lisi	DIR-help	PRT

'himself($_{i/g}$), Lisi helped t.'

Turning now to long-distance binding in Qiang, the language also permits matrix-subject binding of an embedded reflexive, similarly to Chinese. As showed in (21), A reflexive 'ŋ̟itɕuku' ('self ') may be interpreted as referring either to the local subject *Lisi* or to the matrix subject *Zhangsan*, with a preference for the long-distance interpretation. Crucially, the interpretation of the reflexive changes as the fronted phrase appears in progressively higher positions. This binding variation suggests that the possible antecedent of the reflexive is sensitive to the structural position occupied by the fronted phrase during the derivation.

(21)

a.	Zhangsan($_k$)	dʑi	[Lisi($_i$)	[ŋ̟itɕuku($_{?i/*g/k}$)]	tə-ʁua]
	Zhangsan	say	[Lisi	self	DIR-help]

'Zhangan says that Lisi helped himself.'

b.	Zhangsan$_k$	dʑi	[[ŋ̟itɕuku($_{?i/*g/k}$)]$_j$	Lisi$_i$	t$_j$	tə-ʁua]
	Zhangsan	say	[self	Lisi	t$_j$	DIR-help]

'Zhangsan says himself$_j$ Lisi helped t$_j$.'

c.	[t^he-ŋ̟itɕuku(∗i/∗g/k)]$_j$	Zhangsan$_k$	dʑi	[Lisi$_i$	t$_j$	tə-ʁua.]
	3sg-self	Zhangsan	say	[Lisi	t$_j$	DIR-help
	‘Himself$_j$, Zhangsan said Lisi helped t$_j$.’					

As illustrated in (21a - c), the available antecedent of the reflexive changes as the fronted phrase moves to higher structural positions. When the reflexive reaches the left periphery of the matrix clause, only the matrix subject can serve as its antecedent.

This binding pattern is preserved in the ellipsis construction, as shown in (22a) - (b), where the interpretation of the reflexive continues to depend on the matrix subject. The preservation of this interpretation under ellipsis suggests that the same movement-derived structural relation is maintained in both the elided and non-elided structures, which may give a support to PF-deletion analysis.

(22)

a.	[t^he-ŋ̟itɕuku(∗i/∗g/k)]$_j$	Wangwu(k)	lə	dʑi	***Δ***.
	3sg-self	Wangwu	also	say	***Δ***
	‘Himself$_j$, Wangwu also said ***Δ***.’				
b.	[t^he-ŋ̟itɕuku(∗i/∗g/k)]$_j$	Wangwu(k)	lə	dʑi	~~**[Lisi$_{(i)}$ t$_j$ tə-ʁua.]**~~

In this section, I examined the binding properties of reflexives in Qiang in order to test whether the fronted phrase is movement-derived. The data showed that the interpretation of the reflexive changes according to the structural position occupied by the fronted phrase during the derivation, suggesting that the fronted phrase undergoes successive movement from the embedded clause rather than being base-generated in the matrix clause. Crucially, the corresponding ellipsis constructions remain grammatical while preserving the same reflexive interpretation patterns. This suggests that the movement-derived structural relations established in the antecedent clause are maintained under ellipsis, providing further support for a PF-deletion analysis of argument ellipsis in Qiang.

5. Conclusion

This paper investigated whether PF deletion can account for argument ellipsis in Qiang through two steps. First, three movement diagnostics, island sensitivity, weak crossover repair, and reflexive binding variation, were employed to show that the fronted phrase is derived through movement from the embedded clause rather than being base-generated in the matrix clause.

Second, this paper examined whether these movement-sensitive properties are preserved under ellipsis. The grammaticality of the corresponding ellipsis constructions in weak crossover and reflexive-binding environments suggests that the structural relations created by movement are maintained under ellipsis. This supports the view that argument ellipsis in Qiang is derived through PF deletion rather than LF-copy.

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