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A Note on Movement out of an Ellipsis Site:  
A Study of Chinese Relative Clauses and N'-ellipsis\*

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## 1. Introduction

This squib discusses the availability of movement out of an ellipsis site, recently discussed in detail by Sakamoto (2017). Examining the availability of N'-ellipsis to be triggered by a relative clause in Chinese (Saito, Lin and Murasugi 2008), we provide a new generalization concerning extraction from within an ellipsis site. We suggest, in essence, that it is a matter of externalization.

## 2. Relative Clauses and N'-ellipsis in Chinese: Saito, Lin and Murasugi (2008)

It has been claimed that relative clauses are formed via one of the following two operations: Op-movement (Chomsky 1977) or head-raising (Brame 1968, Schachter 1973, Kayne 1994, among others). With regards to Chinese, Saito, Lin and Murasugi (2008) propose that head-raising is responsible for relative clause formation. Consider (1):<sup>1</sup>

- (1) [[Wo zuotian kanjian] de nanhai] bi [[ni zuotian kanjian] de (nanhai)]  
I yesterday see DE boy than you yesterday see DE boy  
geng youqian  
more rich  
'The boy I saw yesterday is richer than the boy you saw yesterday.'

(Saito, Lin and Murasugi 2008: 263)

Importantly, the relative head *nanhai* in the *than*-clause can be omitted. This is in sharp contrast with the Japanese counterpart, illustrated in (2):

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<sup>1</sup> Abbreviations that are used throughout this squib are as follows:

ACC = accusative, ASP = aspectual marker, CL = classifier, COP = copula, GEN = genitive, NEG = negation, NOM = nominative, and TOP = topic.

- (2) [[ boku-ga kinoo mikaketa ] syonen]-wa [ kimi-ga kinoo mikaketa ]  
 I -NOM yesterday saw boy -TOP you -NOM yesterday saw  
 \*(syonen) yori(-mo) kanemochi da.  
 boy than(-also) rich COP

Note that it is not the case that Japanese does not permit N'-ellipsis across-the-board; rather, there is an argument/adjunct asymmetry with respect to the availability of N'-ellipsis (Saito and Murasugi 1990). Therefore, (3), in contrast to (2), remains grammatical, even if the intended N'-ellipsis takes place.

- (3) Taroo-no ane-nitaisuru taido-wa yoi ga, Hanako-no  
 Taroo-GEN elder sister-towards attitude-TOP good though Hanako-GEN  
 (ane-nitaisuru taido)-wa yokunai.  
 elder sister-towards attitude-TOP good-not  
 'Though Taroo's attitude towards his elder sister is good, Hanako's (attitude towards her elder sister) is not good.'

What is responsible for the contrast between (2) and (3) is the observation by Saito, Lin and Murasugi (2008) that only when SPEC is filled, ellipsis in general is licensed (see also Saito and Murasugi (1990, 1999)). For example, for sluicing, only when CP SPEC is occupied by a WH-phrase, the TP can be elided, as shown in the contrast between (4a) and (4b):

- (4) a. I heard Hanako bought something, but I don't know what (she bought).  
 b. I heard Hanako bought something, but I don't believe that \*(she bought something).

In addition, we independently know that only arguments can be raised to DP SPEC. Consider the paradigm in (5) from Lin, Murasugi and Saito (2001):

- (5) a. [DP the [NP destruction of the city then ]]  
 b. [DP the city's<sub>1</sub> [NP destruction of *t*<sub>1</sub> then ]]  
 c. \*[DP then<sub>1</sub> [NP destruction of the city *t*<sub>1</sub> ]]

The contrast between (5b) and (5c) shows that the adjunct *then* cannot be raised to DP SPEC. Now, given the assumption that relative clauses, being an NP-modifier, are adjoined to NP, the relative clause in (2), for example, cannot move to DP SPEC, and therefore, the intended N'-ellipsis cannot be

licensed.<sup>2</sup>

The next question is how the relative clause in (1) comes to license the intended N'-ellipsis. If Chinese relative clauses were adjoined to NP, parallel to their Japanese counterparts, it would be very difficult, if not impossible to account for the fact that the relative head in (1) can be elided. Saito, Lin and Murasugi's (2008) answer to this question is that Chinese relative clauses are formed via head-raising. Under the head-raising hypothesis, the relative clause in the *than*-clause in (1) undergoes the following derivational steps. For the ease of exposition, we use English translations for each Chinese word.

- (6) a. [DP[CP [TP you yesterday see boy ] de]]  
b. [DP [CP boy<sub>1</sub> [TP you yesterday see t<sub>1</sub> ] de]]  
c. [DP de<sub>2</sub> [CP boy<sub>1</sub> [TP you yesterday see t<sub>1</sub> ] t<sub>2</sub> ]]  
d. [DP [TP you yesterday see t<sub>1</sub> ]<sub>3</sub> [D' de<sub>2</sub> [CP **boy**<sub>1</sub> [C' t<sub>3</sub> t<sub>2</sub> ]]]]

In (6d), the relative clause occupies DP SPEC, which satisfies the structural requirement for ellipsis operation. As a result, the boldfaced CP, which contains only the relative head, can be elided. Under Saito, Lin and Murasugi's proposal, what appears to be an instance of N'-ellipsis triggered by a relative clause is in fact CP-ellipsis. Of importance for the present concern is that when CP-ellipsis is triggered by a relative clause, the relative head is overtly raised to CP SPEC. In other words, CP-ellipsis signals the presence of overt movement.

### 3. Argument Ellipsis in Chinese: Sakamoto's (2017) Overt and Covert Distinction of Movement

Based on a variety of data from various languages, Sakamoto (2017) provides an interesting generalization for argument ellipsis, given in (7):

- (7) Only covert extraction is permitted out of null argument sites, regardless of the type of movement (A' or A) or the category of null arguments (clausal or nominal).

This section concerns overt movement and illustrates that the movement under question is prohibited out of null arguments sites, and the following section deals with covert movement.

As observed in the literature, notably by Kim (1999) and Oku (1998), East Asian languages, thus Chinese permits argument ellipsis. Accordingly, null arguments allow both strict and sloppy readings, as exemplified in (8):

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<sup>2</sup> See also Miyamoto (2014) for relevant discussion.

- (8) a. Zhangsan piping-guo [DP ziji-de laoshi].  
 Zhangsan criticize-ASP self-GEN teacher  
 ‘(lit.) Zhangsan criticized self’s teacher.’
- b. Mali mei piping-quo [ *e* ].  
 Mali NEG criticize-ASP  
 ‘(lit.) Mali did not criticize [ *e* ].’

(Xu 1986; Huang 1987, 1991)

The null object [ *e* ] in (8b) can be interpreted as Zhangsan’s teacher (strict reading) or Mali’s teacher (sloppy reading). The presence of the sloppy reading cannot be accounted for if the null object under question is pronominal in nature. Notice that if [ *e* ] is replaced by the overt pronominal *ta*, as shown in (9), the intended sloppy reading disappears.

- (9) Mali mei piping-quo ta  
 Mali NEG criticize-ASP him  
 ‘Mali did not criticize him.’

Another evidence for Chinese null arguments, being an instance of argument ellipsis, comes from the availability of quantificational reading, as extensively discussed in Takahashi (2008). Consider (10):

- (10) a. Zhangsan kanjian-le san-ge xuesheng.  
 Zhangsan see -ASP three-CL student  
 ‘Zhangsan saw three students.’
- b. Lisi ye kanjian-le [ *e* ].  
 Lisi also see -ASP  
 ‘(lit.) Lisi also saw [ *e* ].’
- c. Lisi ye kanjian tamen le.  
 Lisi also see they ASP  
 ‘(lit.) Lisi also saw them.’

The null object [ *e* ] in (10b), following (10a), is ambiguous. It can mean the three students that Zhangsan saw or a group of three students different from the ones Zhangsan saw. The latter reading is dubbed “quantificational” reading. This reading is absent if the null object is replaced by the overt pronoun *tamen*, as shown in (10c).

Now that we have established Chinese allows argument ellipsis, consider (11):

- (11) a. Na-ben shu<sub>i</sub>, Lisi juede [<sub>CP</sub> Zhangsan mai-le *t*<sub>1</sub>].  
 that-CL book Lisi feel Zhangsan buy-ASP  
 ‘(lit.) That book<sub>i</sub>, Lisi feels that Zhangsan bought *t*<sub>1</sub>.’
- b. Na-ben shu<sub>i</sub>, Wangwu ye juede [<sub>CP</sub> Zhangsan mai-le *t*<sub>1</sub>].  
 that-CL book Wangwu also feel Zhangsan buy-ASP  
 ‘(lit.) That book<sub>i</sub>, Wangwu also feels that Zhangsan bought *t*<sub>1</sub>.’
- c. \*Na-ben shu<sub>i</sub>, Wangwu ye juede [<sub>CP</sub> *e*].  
 that-CL book Wangwu also feel  
 ‘(lit.) That book<sub>i</sub>, Wangwu also feels [<sub>CP</sub> *e*].’

(Sakamoto 2017: 53)

No problem arises if (11b) follows (11a); however, if the CP complement is elided from (11b), deviance results, as shown in (11c). This indicates that overt A'-extraction is not allowed from an ellipsis site in Chinese.

The following examples show that overt A-extraction is also prohibited from an ellipsis site.

- (12) a. Xu juede ta<sub>i</sub> keneng [<sub>clause</sub> Zhangsan reng-le nei kuai rou *t*<sub>1</sub>].  
 Xu feel he likely Zhangsan toss-ASP that piece meat  
 ‘(lit.) Xu feels that he<sub>i</sub> is likely [<sub>clause</sub> that Zhangsan tossed that piece of meat *t*<sub>1</sub>.’
- b. Lisi ye juede ta<sub>i</sub> keneng [<sub>clause</sub> Zhangsan reng-le nei kuai rou *t*<sub>1</sub>].  
 Lisi also feel he likely Zhangsan toss-ASP that piece meat  
 ‘(lit.) Lisi also feels that he<sub>i</sub> is likely [<sub>clause</sub> that Zhangsan tossed that piece of meat *t*<sub>1</sub>.’
- c. \*Lisi ye juede ta<sub>i</sub> keneng [<sub>clause</sub> *e*].  
 Lisi also feel he likely  
 ‘(lit.) Lisi also feels that he<sub>i</sub> is likely [<sub>clause</sub> *e*].’

(Sakamoto 2017: 54)

Based on the assumption that the movement of the pronoun *ta* is an instance of A-movement, the contrast between (12b) and (12c) means that overt A-movement cannot take place out of an ellipsis site, either.

#### 4. N'-ellipsis and Argument Ellipsis in Chinese Relative Clauses

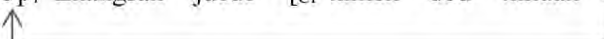
In contrast to overt movement, Sakamoto (2017) argues that relative clauses in Chinese show that covert extraction out of an ellipsis site is possible, based on the assumption that Chinese relative clauses involve Op-movement, as exemplified in (13):

- (13) [Op<sub>1</sub> Zhangsan mai t<sub>1</sub> de] shu  
 Zhangsan buy DE book  
 ‘the book that Zangsan bought’

His crucial data are given in (14):

- (14) a. [Lisi juede [CP nimen dou xihuan [e]<sub>1</sub>] de] ren] lai-le.  
 Lisi feel you all like DE people come-ASP  
 ‘The person<sub>1</sub> [that Lisi feels [that you all will like [e]<sub>1</sub>]] came.’
- b. Dan [[Zhangsan juede [CP nimen dou xihuan [e]<sub>1</sub>] de] ren] mei  
 but Zhangsan feel you all like DE people NEG  
 lai.  
 come  
 ‘But, the person [that Zhangsan feels [that you all like [e]<sub>1</sub>]] did not come.’
- c. Dan [[Zhangsan juede [CP e] de] ren] mei lai.  
 but Zhangsan feel DE people NEG come  
 ‘But, the person [that Zhangsan feels [that you all like [e]<sub>1</sub>]] did not come.’

Crucially, not only (14b), but also (14c), involves argument ellipsis: the deletion of the complement CP. Given the assumption that the structure of the relative clause in (14b, c) is as shown in (15), the grammaticality of (14c) constitutes evidence for the claim that covert A'-movement is possible from an ellipsis site.

- (15) [Op<sub>1</sub> Zhangsan juede [CP nimen dou xihuan t<sub>1</sub>] de] ren
- 
- The diagram shows a horizontal line with an upward arrow at the left end pointing to Op<sub>1</sub> and a downward arrow at the right end pointing to t<sub>1</sub>, indicating movement from the trace to the operator.

The discussion in Section 2 becomes immediately relevant here. Sakamoto's assumption that Chinese relative clauses involve Op-movement makes a predication for the availability of N'-ellipsis triggered by a relative clause. In (15), the relative clause must be an NP-modifier, being adjoined to NP. If so, since it cannot occupy DP SPEC at any point of derivation, the relative head should not be able to be elided in (14c): (16) is predicted to be ungrammatical:

- (16) Dan [[Zhangsan juede [CP e] de]] mei lai.  
 but Zhangsan feel DE NEG come  
 ‘But, the ~~person~~ [that Zhangsan feels [that you all like [e]<sub>1</sub>]] did not come.’

Furthermore, since overt A'-extraction should be excluded according to Sakamoto (2017), as seen above, the option of overt head-raising should not be available in (14c). Yet, significantly, (16) remains grammatical.

Based on the discussion in Section 2, the grammatical status of (16) indicates one of the following:

- (17) a. The relative head is base-generated in CP SPEC, and the ellipsis site contains *pro* co-indexed with the relative head.  
 [DP [TP Zhangsan juede [CP nimen dou xihuan *pro*<sub>1</sub> ]<sub>3</sub> [D' de ] [CP ren<sub>1</sub> [C' t<sub>3</sub> t<sub>2</sub> ]]]]  
 b. Overt A'-extraction should be possible from an ellipsis site (at least in some cases).

The possibility in (17a) is pursued in Murasugi (2000) for Japanese relative clauses. Under the structure given in (17a), we predict that no reconstruction effects should be observed. This is in fact the case in Japanese, as observed by Kizu (2005), but Aoun and Li (2003) observe that Chinese relative clauses exhibit the effects under question. In (18), for instance, *ziji*, located within the relative head, can be bound by *mei-ge-ren* 'everyone' within the relative clause.

- (18) [[wo jiao Zhangsan quan mei-ge-ren<sub>1</sub> kai t lai de] ziji<sub>1</sub> de  
 I ask Zhangsan persuade every-CL-person drive come DE self DE  
 chezi]  
 car  
 '(lit.) self's car that I asked Zhangsan to persuade everyone to drive over.'

The grammaticality of this example thus disfavors (17a).

Another obvious prediction is that Chinese relative clauses should not exhibit island effects, if (17a) is correct. Huang (1990) observes that long-distance dependency does not cause any problem in Chinese relative clauses, as shown by the grammaticality of (19):

- (19) [[Wo zhidao [Lisi juede [nimen dou hui xihuan [e]<sub>1</sub> ]]] de ren<sub>1</sub> ] lai le.  
 I know Lisi feel you all will like DE people come ASP  
 'The person that I know that Lisi feels that you all will like came.'

However, once an island is present, deviance results, as exemplified in (20):



- (20) \*[[[[Wo renshi [henduo [[xihuan [e]<sub>i</sub>] de ] ren ] de] nei-ge laoshi<sub>i</sub>] xing  
 I know many like DE people DE that-CL professor call  
 Wang.  
 Wang  
 ‘[The teacher [who I know [many people who like]]] has the surname Wang.’

The grammatical contrast between the above two examples, again, indicates that (17a) is not tenable.

In addition, Safir (1986) argues that the resumptive *pro* is licensed by Op-movement within the relative clause. Again, the presence of Op-movement within the relative clause must mean that the relative clause itself is a NP-modifier, and thus, we predict that N'-ellipsis should not be available in (16), contrary to fact.

Now, the availability of N'-ellipsis, the presence of reconstruction effects, the presence of island effects in Chinese relative clauses and the resumptive *pro* licensing then lead to the conclusion that (17b) is correct: overt movement out of an ellipsis site should be allowed (in some cases) in Chinese.<sup>3</sup>

## 5. Topicalization vs. Head-Raising in Relative Clauses

Now, the question is what is a crucial factor to tell (11c), an instance of topicalization, from (16), an instance of N'-ellipsis in relative clause, repeated here as (21a) and (21b) respectively:

- (21) a. \*Na-ben shu<sub>i</sub>, Wangwu ye juede [<sub>CP</sub> e ].  
 that-CL book Wangwu also feel  
 ‘(lit.) That book<sub>i</sub>, Wangwu also feels [<sub>CP</sub> e ].’  
 b. Dan [[Zhangsan juede [<sub>CP</sub> e ] de ]] mei lai.  
 but Zhangsan feel DE NEG come  
 ‘But, the person [that Zhangsan feels [that you all like [ e ]<sub>i</sub>]] did not come.’

One obvious difference between the two examples is that in (21a), the moved element *na-ben shu* is visible in PF, whereas the moved element is invisible in PF, in (21b). We, therefore, suggest that the contrast that Sakamoto attempts to capture is not between overt and covert movement: rather, it is whether the moved element is visible in PF. In other words, it is a matter of externalization.

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<sup>3</sup> Examining the interpretation of disjunctive phrases in sentences involving argument ellipsis, Otani (2019) argues that when a contrastively focused element is present, it is PF-deletion that takes place. This proposal suggests that N'-ellipsis must be an instance of PF-deletion since a contrastively focused element remains as a remnant within DP. If this supposition is accurate, it is not surprising that what is involved in (16) is PF-deletion of the relative head with phonetic content.

Accordingly, the generalization in (7) should be modified as in (22):

- (22) The overt head of a chain cannot be present if its tail is within the argument ellipsis site.

## 6. Concluding Remarks

The current squib suggests that in Japanese, extraction of a phrase, which ultimately lacks phonetic content, is allowed from within a null argument sites. The reader might immediately notice that this generalization is not relevant for VP-deletion and sluicing, given the grammaticality of (23a, b):

- (23) a. John bought that expensive book, but I don't know why he did.  
b. John bought something, but I don't know what.

In this regard, Bošković (2014) claims that extraction out of a phasal complement ellipsis site is easier than that from within a phasal ellipsis site.<sup>4</sup> Given that this dichotomy is accurate, the current suggestion is irrelevant for these two types of ellipsis operation: VP is the complement of the phase head *v* whereas TP is the complement of the phase head C. Obviously, further research is required to clarify the accurate relationship between the generalization in (22) and operation responsible for ellipsis in relation to the notion of phases, which we leave for future research.

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<sup>4</sup> Sakamoto (2017) also follows Bošković (2014) in this respect.

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