

## Resumption in Mandarin Chinese

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### Summary

Resumptive pronouns (RPs) exist in different types of A'-dependencies in Mandarin Chinese, such as relativization, Left-Dislocation (LD) structures, cleft-sentences, Across-The-Board (ATB) constructions, etc. Diachronically, resumptive dislocation structures have already been documented in the literature around 502 B.C. In modern Chinese, the obligatory use, the systematical use, and the intrusive use of RPs are all observed. When a prepositional object is A'-extracted, the extraction site must be occupied by an RP given that Chinese does not permit preposition stranding. In certain island free contexts, an RP and a gap are free alternatives in relatives and in LD-structures. However, RP can only redeem the potential violation of island constraints in an LD-structure but not in a relative clause. Gap strategy is always subject to locality constraints. Resumptive strategy only gives rise to island effects in relatives but not in LD-structures. In addition, two empty categories should be distinguished one from the other: gap and *pro*. The extraction of the direct object of action verbs causing direct physical effects on the object-patient, such as *ōudǎ* 'beat', will leave a gap, which potentially gives rise to island effects. By contrast, the extraction of the object of stative and psycho verbs which do not cause any physical effects on the object, such as *xīnshǎng* 'appreciate', never gives rise to island effects. It is assumed that these verbs take *pro* as their complement and *pro* functions as an RP in these structures, which saves the sentence from the potential violation of island constraints. Based on the syntactic distribution of gap, RP and *pro* in relatives and in LD-structures, the minimalist derivation of A'-dependencies involving these elements will be demonstrated.

**Keywords:** resumptive pronoun, relativization, left-dislocation, intrusive pronoun, A-bar dependency, Chinese

### 1. General distribution of resumptive pronouns

Resumptive pronouns are A'-bound pronouns, and they usually occur in a position that a gap would occupy in an A'-dependency, for instance, relativization, left-dislocation structure, *wh*-question, cleft-sentences, etc. In some languages, a resumptive pronoun and a gap are free alternatives in an A'-dependency. This usage of resumptive pronoun is referred to as "systematic use of resumptive pronouns", "general use of resumptive pronouns" or "grammatical use of resumptive pronouns" (cf. Koopman 1983, Borer 1984, Sells 1984, a.o.). In this section, I will present this type of resumptive pronoun in different types of A'-dependencies in Mandarin Chinese.

#### 1.1 Relativization

A resumptive pronoun in its grammatical use can freely replace the gap inside a relative clause in Hebrew. Inside a relative clause, the pronoun *oto* 'him' in (1a) occupies the position that the gap in (1b) occupies. They are in free alternation in relatives in languages like Hebrew.

- (1) a. raiti et ha-yeled [še rina ohevet **oto**].  
saw-I ACC the-boy that Rina loves him  
'I saw the boy [that Rina loves].'

- b. raiti et ha-yeled [še rina ohevet \_\_\_\_].  
 saw-I ACC the-boy that Rina loves  
 ‘I saw the boy [that Rina loves].’  
 (Hebrew, Sells 1984)

Relatives with a gap and relatives with a resumptive pronoun can be syntactically marked in languages like Irish. Example (2a) shows that the gap-strategy selects *a* as complementizer and the resumptive-strategy selects *ar* as complementizer.

- (2) a. an fear [a bhuail tú \_\_\_\_]  
 the man COMP struck you  
 ‘the man [that you struck]’
- b. an fear [ar bhuail tú é]  
 the man COMP struck you him  
 (Lit.) ‘the man [that you struck (him)]’  
 (Irish, McCloskey 1990)

In Chinese, the use of resumptive pronoun is subject to specific syntactic and semantic conditions, as will be detailed throughout this article. Observe here an example to illustrate the simplest case. In (3), the presence of the resumptive pronoun *tā* ‘he’ is optional in the relative clause.

- (3) a. 我爱了{他<sub>j</sub>/\_\_\_\_}三年的那个人<sub>j</sub>  
 [CP [TP Wǒ ài-le {tā<sub>j</sub>/\_\_\_\_} sān nián] [C° de]] nà-ge rén<sub>j</sub>  
 1SG love-PERF 3SG.M three year C that-CL person  
 ‘the person whom I’ve loved for three years’  
 (Chen 2012)
- b. [保安想赶{他<sub>j</sub>/\_\_\_\_}出学校]的那个小流氓<sub>j</sub>不见了。  
 [Bǎo’ān xiǎng gǎn {tā<sub>j</sub>/\_\_\_\_} chū xuéxiào]  
 guard want chase 3SG.M out school  
 de nà-ge xiǎo líumáng<sub>j</sub> bùjiàn-le.  
 C that-CL small hooligan disappear-PERF  
 ‘The hooligan<sub>j</sub> that the guard wanted to chase (him<sub>j</sub>) out of the school has disappeared.’  
 (Pan 2016a)

It is also well-known that in languages like Irish, the presence of a resumptive pronoun is subject to the Highest Subject Constraint, i.e., a resumptive pronoun cannot occupy the highest subject position in a clause. In (4), the ungrammaticality of the sentence is due to the fact that the resumptive pronoun *sé* ‘he’ occupies the highest subject position inside the subordinate clause.

- (4) \*an fear [a raibh sé breoite]  
 the man COMP be-past he ill  
 (‘the man [that he was ill]’)  
 (Irish, McCloskey 1990)

Similarly, the Highest Subject Constraint also applies in Chinese. Resumptive pronouns are excluded from the subject position inside a relative clause, as shown in (5a–c). The presence

of the pronouns in the subject position inside the relative clause leads to the ungrammaticality of the examples.

(5) a. \*他病了三年那个人

\*[CP [TP **Tā** bìng-le sān nián] [C° de]] nà-ge rén  
 3SG.M sick-PERF three year C that-CL person  
 ('the person who was ill for three years')

b. \*她们回到家乡的那几个女孩儿

\*[CP [TP **Tāmen** huí dào jiāxiāng] [C° de]]  
 3PL.F return arrive hometown C  
 nà jǐ-ge nǚhái  
 that several-CL girl  
 ('the girls who came back to their hometown')

c. \*她总是把我当成我双胞胎弟弟的那个女孩儿

\*[CP [TP **Tā** zǒngshì bǎ wǒ dāngchéng wǒ  
 3SG.F always BA 1SG treat.as 1SG  
 shuāngbāotāi dìdì] [C° de]] nà-ge nǚhái  
 twin brother C that-CL girl  
 ('the girl who always (mistakenly) identifies me as my twin brother')

In Chinese, *suǒ* is a preverbal clitic pronoun, and it is often used in relative clauses (Ting 2003). Chen (2012) notes that *suǒ* actually functions as a resumptive pronoun as it is in a complementary distribution with ordinary post-verbal object resumptive pronouns, as shown in (6). The cooccurrence of *suǒ* and *tā* 'he' in (6b) leads to the ungrammaticality of the sentence.

(6) a. 我所爱了三年的那个人

[CP [TP Wǒ **suǒ** ài-le sān nián]  
 1SG SUO love-PERF three year  
 [C° de]] nà-ge rén  
 C that-CL person  
 'the person who I've loved for three years'

b. \*我所爱了他三年的那个人

\*[CP [TP Wǒ **suǒ** ài-le **tā** sān nián]  
 1SG SUO love-PERF 3SG.M three year  
 [C° de]] nà-ge rén  
 C that-CL person  
 ('the person who I've loved for three years')  
 (Chen 2012)

## 1.2 Left-Dislocation structure

Another type of A'-dependency which often involves resumptive pronouns is Left-Dislocation structure (henceforth LD-structure), as illustrated in (7).

(7) That book, I have already read it.

In fact, the use of resumptive pronouns inside an LD-structure appears very early in the history of Chinese. Mei (2015) notes that in archaic Chinese, 焉 *yān* and 之 *zhī* have been used as resumptive pronouns in LD-structures to refer to the left-dislocated constituent, as shown in (8).

(8) a. 制, 巖邑也, 虢叔死焉。《左传·隐公元年》

Zhì<sub>j</sub>, yán yì yě, Guóshū sǐ yān<sub>j</sub>.  
Zhi dangerous city YE Guoshu die there

‘(As for) Zhi<sub>j</sub>, (it is) a dangerous city, and Guoshu died there<sub>j</sub>.’

(*Zuo Zhuan*, by *Qiuming Zuo* (502 B.C. – 422 B.C.), the Spring and Autumn Period)

b. 子女玉帛, 则君有之; 羽毛齿革, 则君地生焉。《左传·僖公二十三年》

[Zǐ nǚ yù bó]<sub>j</sub>, zé jūn yǒu zhī<sub>j</sub>;  
man woman jade silk then 2SG have them

[yǔ máo chǐ cǎo]<sub>i</sub>, zé jūn dì shēng yān<sub>i</sub>.  
feather hair ivory leather then 2SG area produce them

‘(As for) the people and the wealth, you have already possessed them; (as for) the feather, the hair, the ivories, and the leather (referring to raw materials usually used for clothing and adornment), your state has also already produced them.’

(*Zuo Zhuan*, by *Qiuming Zuo* (502 B.C. – 422 B.C.), the Spring and Autumn Period)

c. 晋国, 天下莫强焉。《孟子》

Jìn guó<sub>j</sub>, tiān.xià mò qiáng yān<sub>j</sub>.  
Jin country over.the.world NEG powerful than.it

‘For Jin<sub>j</sub> country, there is no state more powerful than it<sub>j</sub>.’

(*The Mencius*, by *Ke Meng* (372 B.C. – 289 B.C.) and *Meng’s students*, the Warring States Period)

(Cited from Mei (2015:28–29) with my gloss and my translation)

More examples are also found in the documents during the same period, as shown in (9). In (9a), *zhī* refers to the left-dislocated DP *shī zhī suǒ wéi* ‘the action of the army’, and in (9b), *yān* refers to the DP *sù yǐn xíng guài* ‘his living alone and his weird behaviour’.

(9) a. 师之所为, 郑必知之。《左传·僖公三十二年》

[Shī zhī suǒ wéi]<sub>j</sub>, Zhèng bì zhī zhī<sub>j</sub>.  
army ZHI SUO act Zheng necessarily know it

‘(As for) [the action of the army]<sub>j</sub>, Zheng will necessarily know it<sub>j</sub>.’

(*Zuo Zhuan*, by *Qiuming Zuo* (502 B.C. – 422 B.C.), the Spring and Autumn Period)

b. 儵隱行怪, 后世有述焉。《中庸》

[Sù yǐn xíng guài]<sub>j</sub>,  
towards hiding behave weird.things

hòu shì yǒu shù yān<sub>j</sub>.  
future generation have document them

‘As for [(his) hiding himself from the society while behaving weirdly]<sub>j</sub>, the future generations will document this<sub>j</sub>.’

(*The Doctrine Of The Golden Mean*, by *Ji Kong* (483 B.C. – 402 B.C.), the Warring States Period)

In modern Chinese, resumptive LD-structures are very productive as shown in the following examples.

(10) a. 蒸汽机, 它的功用也很大。  
Zhēngqìjī, tā de gōngyòng yě hěn dà.  
steam.engine 3SG DE function also very big  
'As for the steam engine, its performance is also very good.'

b. 这本书, 我很爱它。  
Zhè-běn shū, wǒ hěn ài tā.  
this-CL book 1SG very like 3SG  
'As for this book, I really like it.'

(Li 2007[1924])

(11) 张小姐, 我不想追她。  
Zhāng xiǎojiě, wǒ bù xiǎng zhuī tā.  
Zhang Miss 1SG not want court her  
'Miss Zhang, I don't want to court her.'  
(Huang, Li & Li 2009:200)

The systematic use of resumptive pronouns inside an LD-structure has been extensively discussed in Pan (2016a). In island free context, the gap position can be occupied by a resumptive pronoun, as in (12).

(12) a. 那位记者<sub>j</sub>, 我们昨天已经见过{她<sub>j</sub>/\_\_\_}了。  
[Nà-wèi jìzhě]<sub>j</sub>, wǒmen zuótiān yǐjīng  
that-CL journalist 1PL yesterday already  
jiàn-guò {tā<sub>j</sub>/\_\_\_} le.  
see-EXP 3SG.F LE  
'(As for) that journalist, we have already met her yesterday.'

b. 那个小混混<sub>j</sub>, 警卫想赶{他<sub>j</sub>/\_\_\_}出医院。  
[Nà-ge xiǎo-hùnhun]<sub>j</sub>, jǐngwèi xiǎng  
that-CL little.hooligan guard want  
gǎn {tā<sub>j</sub>/\_\_\_} chū yīyuàn.  
chase 3SG.M out hospital  
'(As for) the hooligan, the guard wanted to chase (him) out of the hospital.'  
(Pan 2016a).

Given that there is no subordinate clause in an LD-structure, the use of resumptive pronoun is not subject to the Highest Subject Constraint. In (13), the subject position can host resumptive pronouns.

(13) a. 那个人, 他病了三年。  
Nà-ge rén, tā bìng-le sān nián.  
that-CL person 3SG.M sick-PERF three year  
'That person, he was ill for three years.'

- b. 那几个女孩儿, 她们回到了家乡。  
 Nà jǐ-ge nǚhái, tāmen huí  
 that several-CL girl 3PL.F return  
 dào-le jiāxiāng.  
 arrive-FERF hometown  
 ‘Those girls, they came back to their hometown.’

### 1.3 Cleft-sentence

Resumptive pronouns can also be used in cleft-sentences in Irish, as shown in (14).

- (14) a. Tig beag caol ar mhaireamar ann *pro*  
 house little narrow COMP<sub>pro</sub> live-PAST-1PL in-3SG-M  
 ‘It was a narrow little house that we lived in (it).’
- b. Siobhán a bhfuil buaite aici *pro*  
 Siobhan COMP<sub>pro</sub> is won by-3SG-F  
 ‘It is Siobhan that has won.’  
 (Lit.) ‘It is Siobhan that has been won by her.’  
 (Irish, McCloskey 1990)

Chinese shows the same pattern. The ex-situ cleft-sentence is formed by a left-dislocated DP preceded by the copular *shì* ‘be’. The syntactic analysis of this type of cleft-sentence is extensively discussed in Pan (2019). Example (15) shows that the resumptive pronoun *tā* ‘it’ refers to the clefted DP *this little dog*.

- (15) 是这只小狗, 张三昨天买下了它。  
 Shì zhè-zhī xiǎo gǒu, Zhāngsān zuótiān mǎi-xià-le tā.  
 be this-CL little dog Zhangsan yesterday buy-PERF 3SG  
 ‘It is this little dog that Zhangsan bought yesterday.’

Chinese is a *wh*-in-situ language and *wh*-words do not move to the Spec of CP to form a *wh*-question. However, as demonstrated in Pan (2011), obligatory *wh*-fronting is required in the Across-The-Board (ATB) construction. Resumptive pronouns can exist in ATB constructions in Chinese, as demonstrated in (16).

- (16) 哪位同学, 张老师教过(她)一年, 李老师教过(她)三年?  
 Nǎ-wèi tóngxue, Zhāng lǎoshī jiāo-guò (tā) yī nián,  
 which-CL student Zhang teacher teach-EXP 3SG.F one year  
 lǐ lǎoshī jiāo-guò (tā) sān nián?  
 Li teacher teach-EXP 3SG.F three year  
 ‘Which student did Mrs Zhang teach (her) for one year, and Mr Li teach (her) for three years?’

Example (17) involves an ex-situ cleft *wh*-question and the relevant *wh*-phrase undergoes ATB-movement by leaving two identical traces inside each conjunct clause. These two traces can be replaced by the same resumptive pronoun *tā* ‘her’.

- (17) 是哪位大法官, 所有的穷人都喜欢(她), 所有的富人都不喜欢(她)?  
 Shì nǎ-wèi dàfǎguān, suǒyǒu de qióng rén dōu xǐhuān (tā),  
 be which-CL justice all DE poor people all like 3SG.F

suǒyǒu de fù rén dōu bù xǐhuān (tā)?  
 all DE rich people all NEG like 3SG.F  
 ‘Which justice is it, such that all the poor people like her, and all the rich people dislike her?’

#### 1.4 *Wh*-question

McCloskey (1990) also notes that resumptive pronouns can also appear in *wh*-questions in Irish, as shown in (18). Given that there is no *wh*-movement in Chinese, resumptive *wh*-questions do not exist in Chinese.

(18) cén t-oifigeach ar shíl tú go  
 which officer COMP<sub>pro</sub> thought you COMP  
 mbeadh sé i láthair?  
 would-be he present  
 ‘Which officer did you think would be present?’  
 (Irish, McCloskey 1990)

## 2. Obligatory use of resumptive pronouns in Chinese

In languages that do not permit preposition stranding, such as Hausa and Welsh, the use of resumptive pronoun is obligatory. This is referred to as the obligatory use of resumptive pronouns. The obligatory use of resumptives also applies to the case involving a possessor, as illustrated in (19-20). The object resumptive pronoun must be present to avoid preposition stranding in (19a) and in (20a). A resumptive pronoun also must be present when it is used in the position of possessor, as in (19b) and in (20b).

(19) a. Prepositional object  
 Waa ka yi maganaa da \*(*shii*)?  
 who 2SGM do talk with him  
 ‘Who did you talk with?’

b. Possessor  
 Waa ka karanta littaa*finsa*?  
 who 2SGM read book-of-his  
 ‘Whose book did you read?’  
 (Hausa, Tuller 1986)

(20) a. Prepositional object  
 y dyn [y siaradasoch chwi ag \*(*ef*)]  
 the man that spoke you with him  
 ‘the man [that you spoke with]’

b. Possessor  
 y dyn [yr oedd \*(*ei*) fam gartref]  
 the man that was his mother at.home  
 ‘the man [whose mother was at home]’  
 (Welsh, Rouveret 2011)

Similarly, Chinese does not permit preposition stranding; as a result, after A'-extraction of a prepositional object, a resumptive pronoun must be inserted in the complement position of the preposition, for instance, *tì* ‘for’ in (21) and *gēn* ‘with’ in (22).

(21) 我替{他 / \*\_\_}买票的朋友  
 [CP [TP wǒ tì {tā / \*\_\_} mǎi piào] [C° de]] péngyou  
 1SG for 3SG.M buy ticket C friend  
 ‘the friend for whom I bought the ticket’  
 (Lü 1982, with my gloss and my translation)

(22) 玛丽跟{他 / \*\_\_}跳过舞的那个男人  
 [CP [TP Mǎlì gēn {tā / \*\_\_} tiào-guò wǔ]  
 Mary with 3SG.M dance-EXP dance  
 [C° de]] nà-ge nánrén  
 C that-CL man  
 ‘the man whom Mary danced with’  
 (Gu 2006, with my gloss and my translation)

Here are more examples with different prepositions, *duì* ‘toward, to’, *yóu* ‘by’, *zài* ‘at’, *yǐ* ‘(take)...as’, *gěi* ‘to, for’, *xiàng* ‘to, from’.

(23) a. 老板一直对\*(他们)都很苛刻的那些工人  
 lǎobǎn yīzhí duì \*(tāmen) dōu hěn kēkè de  
 boss always to 3PL all very harsh C  
 nà-xiē gōngrén  
 that-CL-PL worker  
 ‘the workers with whom the boss are always very demanding’

b. 由\*(他)暂代导游工作的那位司机  
 yóu \*(tā) zàn dài dǎoyóu  
 by 3SG.M temporarily substitute tourist.guide  
 gōngzuò de nà-wèi sījī  
 work C that-CL driver  
 ‘the driver who will temporarily replace the tourist guide’

c. 我们曾经在\*(那儿)工作过五年的公司  
 wǒmen céngjīng zài \*(nàr) gōngzuò-guò  
 1PL ever at there work-EXP  
 wǔ nián de gōngsī  
 five year C company  
 ‘the company where we worked for five years’

d. 我们一直以\*(他)为目标的那位游泳运动员  
 wǒmen yīzhí yǐ \*(tā) wéi mùbiāo de  
 1PL always take 3SG.M as goal C  
 nà-wèi yóuyǒng yùndòngyuán  
 that-CL swim athlete  
 (Lit.) ‘the swimmer whom we always follow as an example’

e. 你送花给\*(她)的姑娘  
 [CP [TP nǐ sòng huā gěi \*(tā)] [C° de]] gūniang  
 2SG give flower to 3SG.F C girl  
 ‘the girl to whom you offered flower’

d. 我向\*(她)问路的老人家

[<sub>CP</sub> [<sub>TP</sub> wǒ xiàng \*(tā) wèn lù] [<sub>C°</sub> de]] lǎorénjiā  
1SG from 3SG.F ask route C elder  
'the old lady whom I asked for direction'

Yang (2012) also notes other contexts in which the presence of resumptive pronouns is obligatory, such as causative construction (cf. 24a), double object construction (cf. 24b), coordination/comitative construction (cf. 24c) and verb reduplication construction (cf. 24d).

(24) a. 我让{他 / \*\_\_}出国的那个人

[<sub>CP</sub> [<sub>TP</sub> wǒ ràng {tā / \*\_\_} chū guó]  
1SG let 3SG.M go.out country  
[<sub>C°</sub> de]] nà-ge rén  
C that-CL person  
(Lit.) 'the person whom I asked to go abroad'

b. 我教{他 / \*\_\_}中文的那个学生

[<sub>CP</sub> [<sub>TP</sub> wǒ jiāo {tā / \*\_\_} zhōngwén]  
1SG teach 3SG.M Chinese  
[<sub>C°</sub> de]] nà-ge xuésheng  
C that-CL student  
'the student to whom I teach Chinese'

c. 妹妹和{她 / \*\_\_}打过球的那个女孩

[<sub>CP</sub> [<sub>TP</sub> mèimei hé {tā / \*\_\_} dǎ-guò qiú]  
sister with 3SG.F play-EXP ball  
[<sub>C°</sub> de]] nà-ge nǚhái  
C that-CL girl  
'the girl whom my sister played ball with'

d. 我佩服{她 / \*\_\_}佩服得五体投地的老师

[<sub>CP</sub> [<sub>TP</sub> wǒ pèifú {tā / \*\_\_} pèifú de wǔtītóudì]  
1SG admire 3SG.F admire DE greatly  
[<sub>C°</sub> de]] lǎoshī  
C teacher  
'the teacher whom I admire greatly'

(Yang 2012, with my gloss, translation and bracketing)

The obligatory use of resumptive pronouns is also observed in LD-structures, as shown in (25).

(25) a. 那些工人, 老板一直对\*(他们)都很苛刻。

Nà-xiē gōngrén, lǎobǎn yīzhí duì \*(tāmen)  
that-CL-PL worker boss always to 3PL  
dōu hěn kēkè.  
all very harsh  
'(As for) the workers, the boss are always very demanding with \*(them).'

- b. 那位司机, 今天由\*(他)暂代导游工作。  
 Nà-wèi sījī, jīntiān yóu \*(tā) zàn  
 that-CL driver today by 3SG temporarily  
 dài dǎoyóu gōngzuò.  
 substitute tourist.guide work  
 ‘(As for) the driver, \*(he) will temporarily replace the tourist guide today.’
- c. 那家公司, 我们曾经在\*(那儿)工作过五年。  
 Nà-jia gōngsī, wǒmen céngjīng zài \*(nàr)  
 that-CL company 1PL ever at there  
 gōngzuò-guò wǔ nián.  
 work-EXP five year  
 ‘(As for) that company, we were working \*(there) during five years.’
- d. 那位游泳运动员, 我们一直以\*(她)为目标。  
 Nà-wèi yóuyǒng yùndòngyuán, wǒmen yīzhí  
 that-CL swim athlete 1PL always  
 yǐ \*(tā) wéi mùbiāo.  
 take 3SG.F as target  
 ‘(As for) that swimmer, we always follow (her) as an example.’
- e. 我弟弟啊, 我被\*(他)吵了一下午。  
 Wǒ dìdì a, wǒ bèi \*(tā) chǎo-le yī xiàwǔ.  
 1SG brother A 1SG PASSIVE 3SG.M disturb-PERF one afternoon  
 ‘(As for) my brother, I was disturbed by \*(him) for a whole afternoon.’
- f. 那只小狗, 我把\*(它)送回家了。  
 Nà-zhī xiǎo gǒu, wǒ bǎ \*(tā) sòng huí jiā le.  
 that-CL small dog 1SG BA 3SG take return home LE  
 ‘(As for) that little dog, I have taken \*(it) home.’
- g. 那个孩子, 我们昨天护送\*(她)平安到家了。  
 Nà-ge háizi, wǒmen zuótiān hùsòng tā  
 that-CL child 1PL yesterday accompany 3SG.F  
 píng’ān dào jiā le.  
 safely come home LE  
 ‘(As for) that kid, we accompanied her home safely yesterday.’

The obligatory use of resumptive pronouns should be distinguished from the intrusive use of resumptive pronouns, as will be detailed in section 3.

### 3. Intrusive use of resumptive pronoun in Chinese

Another type of resumptive pronoun only occurs inside an island, whose presence can save the sentence from the potential violation of island constraints. This type of resumptive pronoun is referred to as intrusive pronouns in the literature. For instance, in Hebrew (cf. 26), the relativized site is embedded within the inner relative clause “*the woman that loves him*”, which constitutes a strong island for A'-extraction. If the relativized site is occupied by a gap, then the sentence will be ungrammatical due to the violation of locality constraints. As demonstrated in (26), the presence of the intrusive pronoun *oto* ‘him’ redeems the violation.

- (26) raiti et ha-yeled še dalya makira et  
 saw-I ACC the-boy that Dalya knows ACC  
 ha-iša še ohevet \*(oto).  
 the-woman that loves him  
 ‘I saw the boy<sub>j</sub> [that Dalya knows the woman [that loves him<sub>j</sub>]].’  
 (Hebrew, Borer 1984)

Similarly, intrusive pronouns also exist in Irish as shown in (27). The insertion of the pronoun *iad* ‘them’ inside the *wh*-island saves the sentence from the potential violation of locality constraints.

- (27) ne dànta sin nach bhfuil fhios  
 the poems these C-NEG is knowledge  
 againn cén àit ar cumadh *iad*  
 at-us what place C were-composed them  
 ‘those poems<sub>j</sub> [that we do not know [where they<sub>j</sub> were composed]]’  
 (Irish, McCloskey 1990)

As for Chinese, in an LD-structure, the presence of an intrusive pronoun avoids the potential violation of the locality constraints. When the direct object is topicalized out of an island, such as the complex NP island in (28) or an adjunct island in (29), the gap-strategy leads to the ungrammaticality of the sentence and the resumptive-strategy will save the sentence from the violation of locality constraints.

- (28) 那位法国影星<sub>j</sub>, 小倩认识[拥抱过{他<sub>j</sub>/\*\_\_}的]那位女同学。  
 Nà-wèi Fǎguó yǐngxīng<sub>j</sub>, Xiǎoqiàn rènshí  
 that-CL French star Xiaoqian know  
 [yōngbào-guò {tā<sub>j</sub>/\*\_\_} de ] nà-wèi nǚtóngxué.  
 embrace-EXP 3SG.M C that-CL female.student  
 ‘As for that French star<sub>j</sub>, Xiaoqian knows the girl [who embraced (*him<sub>j</sub>*)].’

- (29) 那个医生<sub>j</sub>, [[因为玛丽亲了{他<sub>j</sub>/\*\_\_}] 整个学校的男老师都很郁闷]。  
 Nà-ge yīshēng<sub>j</sub>, [yīnwèi Mǎlì qīn-le {tā<sub>j</sub>/\*\_\_}]  
 that-CL doctor because Mary kiss-PERF 3SG.M  
 zhěng-ge xuéxiào] de nánlǎoshī dōu hěn yùmèn.  
 entire-CL school DE man.teacher all very unhappy  
 ‘As for the doctor<sub>j</sub>, all of the male teachers of the school are unhappy [because Mary kissed him<sub>j</sub>/\*\_\_].’

However, intrusive pronouns do not exist in all languages. Tallerman (1983) claims that in Welsh, the agreement inflection in (30a) or the clitic pronoun in (30b), which serve as a resumptive pronoun, cannot remedy strong island violations.

- (30) a. ?\*Dyma’r dyn y cusanaist ti ’r ddy nes  
 here the man that kissed you the woman  
 a siaradodd amdano  
 REL talked about-[agr]  
 (Lit.) ‘Here is the man that you kissed the woman who talked about him.’

- b. ?\*Dyma'r dyn y cusanaiſt ti 'r ddynes  
 here the man that kissed you the woman  
 a brynnodd *ei* dŷ  
 REL bought his house  
 'Here is the man that you kissed the woman who bought his house.'  
 (Welsh, Tallerman 1983)

Interestingly, in Chinese, when the relative clause contains an island, the presence of a resumptive pronoun within the island cannot avoid the violation of locality constraints, different from what has been observed in LD-structures. When a direct object is relativized out of an island, the complex NP in (31) or the adjunct island in (32), the relevant sentence is ungrammatical, irrespective of whether the relativized site is occupied by a gap or by a resumptive pronoun. Therefore, a sharp contrast between a relative clause and an LD-structure is that the use of intrusive pronouns is permitted in the latter, but not in the former.<sup>1</sup>

- (31) \*我碰到了[小倩认识[拥抱过他<sub>j</sub>/\_\_\_\_<sub>j</sub>的]那位女同学的]法国影星<sub>j</sub>。

\*Wǒ pèngdào-le [Xiǎoqiàn rènshi [yōngbào-guò  
 I meet-PERF Xiaoqian know embrace-EXP  
 tā<sub>j</sub>/\_\_\_\_<sub>j</sub> de] nà-wèi nǚtóngxué de ]  
 3SG.M C that-CL female.student C  
 Fǎguó yǐngxīng<sub>j</sub>.  
 French star  
 ('I met the French star<sub>j</sub>; that Xiaoqian knows the girl [who embraced (him<sub>j</sub>)].')

- (32) \*因为玛丽亲了他<sub>j</sub>/\_\_\_\_<sub>j</sub>整个学校的男老师都很郁闷的那个医生<sub>j</sub>

\*Yīnwèi Mǎlì qīn-le tā<sub>j</sub>/\_\_\_\_<sub>j</sub> zhěng-gè xuéxiào de  
 because Mary kiss- PERF 3SG.M entire-CL school DE  
 nánlǎoshī dōu hěn yùmèn de nà-ge yīshēng<sub>j</sub>  
 man.teacher all very unhappy C that-CL doctor  
 ('the doctor<sub>j</sub>; that [all of the masculine teachers of the school are unhappy [because  
 Mary kissed (him<sub>j</sub>)]]')

(Pan 2016a)

#### 4. Resumptive *pro*

In fact, island effects are not always observed for object gap in LD-structures. Specifically, whether an object gap gives rise to island effects is closely related to the type of the verb that takes this gap as complement. Pan (2020) makes a distinction between the left-dislocation of the direct object from two types of predicates: (i) action verbs causing direct physical effects on the object-patient, such as *ōudǎ* 'beat', *tuīdǎo* 'push over', *bǎngjià* 'kidnap'; (ii) stative and psycho verbs which do not cause any physical effects on the object, such as *xīnshǎng* 'appreciate', *tǎoyàn* 'dislike', etc. The extraction of the direct object of the former type of predicate out of an island will leave a gap, which gives rise to island effects (cf. 33), whereas the same extraction of the direct object of the latter type of predicate will be licit, and this type of predicate takes *pro* as object (cf. 34). In the latter case, *pro* functions as a resumptive pronoun, which saves the sentence from the potential violation of island constraints.

<sup>1</sup> Note that most of island violation cases discussed here can also be accounted for by the Generalized Control Rule (GCR) proposed in Huang (1984, 1989).

- (33) a. [老板殴打那个乞丐的]事儿传遍了大街小巷。  
 [Lǎobǎn ōudǎ nà-ge qǐgài de] shìr  
 boss beat that-CL beggar C matter  
 chuán-biàn-le dàjiēxiǎoxiàng.  
 spread-throughtout-PERF big.avenue.small.street  
 ‘The fact that [the boss beats that beggar] has spread everywhere.’
- b. \*那个乞丐<sub>j</sub>, [老板殴打 \_\_\_<sub>j</sub> 的]事儿传遍了大街小巷。  
 \*Nà-ge qǐgài<sub>j</sub>, [lǎobǎn ōudǎ \_\_\_<sub>j</sub> de] shìr  
 that-CL beggar boss beat C matter  
 chuán-biàn-le dàjiēxiǎoxiàng.  
 spread-throughtout-PERF big.avenue.small.street  
 (‘As for that beggar<sub>j</sub>, the fact that [the boss beats \_\_\_<sub>j</sub>] has spread everywhere.’)  
 (Pan 2020, with my gloss, translation and bracketing)
- (34) a. [大家都很欣赏新来的体育老师的]传闻确实是真的。  
 [Dàjiā dōu hěn xīnshǎng xīn lái de  
 everyone all very appreciate new come C  
 tǐyù lǎoshī de] chuánwén quèshí shì zhēnde.  
 PE teacher C rumour indeed be true  
 ‘The rumour that [everyone appreciates the new PE teacher very much] is indeed true.’
- b. 新来的体育老师<sub>j</sub>, [大家都很欣赏 *pro*<sub>j</sub> 的]传闻确实是真的。  
 Xīn lái de tǐyù lǎoshī<sub>j</sub>, [dàjiā dōu hěn  
 new come C PE teacher everyone all very  
 xīnshǎng *pro*<sub>j</sub> de] chuánwén quèshí shì zhēnde.  
 appreciate C rumour indeed be true  
 ‘As for that new PE teacher<sub>j</sub>, the rumour that [everyone admires *pro*] is indeed true.’  
 (Pan 2020, with my gloss, translation and bracketing)

In addition, Pan (2020) also notes that the syntactic environment in which action verbs appear will also affect the extractability of their objects. Sentence (35a) is totally ungrammatical, but its acceptability is slightly improved when *oudǎ* ‘beat’ is followed by the perfective aspect suffix *-le*, as shown in (35b). When *oudǎ-le* ‘beat-PERF’ is further followed by a post-verbal frequency complement, such as *san-ci* ‘three times’, the sentence becomes fully grammatical, as illustrated in (35c). This is because the entire predicate *oudǎ-le san-ci* ‘beat-PERF for three times’ emphasizes the event (with a certain frequency) or the state rather than the physical effects that the action causes on its direct object. Similarly, when *oudǎ* ‘beat’ is followed by the experience aspect suffix *-guò*, it also emphasizes the event, i.e., an experience in the past, as shown in (35d). Theoretically, we can assume that it is a *pro* rather than a gap that is located inside the island in (35c, d). Cross-linguistically, the degree of the complexity of a predicate can somehow affect its argument structure (cf. Folli & Harley 2013). The reason why (35c, d) are grammatical is that inside these two sentences, *pro* actually plays the role of an intrusive resumptive pronoun to save the sentence from the potential violation of island constraints.

- (35) a. \*那个乞丐<sub>j</sub>, [老板殴打 \_\_\_<sub>j</sub> 的]事儿传遍了大街小巷。  
 \*Nà-ge qǐgài<sub>j</sub>, [lǎobǎn ōudǎ \_\_\_<sub>j</sub> de] shìr  
 that-CL beggar boss beat C matter

chuán-biàn-le                      dàjiēxiǎoxiàng.  
 spread-throughout-PERF    big.avenue.small.street  
 ('As for that beggar<sub>j</sub>, the fact that [the boss beat \_\_\_<sub>j</sub>] has spread everywhere.')

b. ?\*那个乞丐<sub>j</sub>, [老板殴打了 \_\_\_<sub>j</sub> 的]事儿传遍了大街小巷。  
 ?\*Nà-ge qǐgài<sub>j</sub>, [lǎobǎn ōudǎ-le \_\_\_<sub>j</sub> de] shìr  
 that-CL beggar boss beat-PERF C matter  
 chuán-biàn-le                      dàjiēxiǎoxiàng.  
 spread-throughout-PERF big.avenue.small.street  
 ('As for that beggar<sub>j</sub>, the fact that [the boss beat \_\_\_<sub>j</sub>] has spread everywhere.')

c. 那个乞丐<sub>j</sub>, [老板殴打了 *pro<sub>j</sub>* 三次的]事儿传遍了大街小巷。  
 Nà-ge qǐgài<sub>j</sub>, [lǎobǎn ōudǎ-le *pro<sub>j</sub>* sān-cì de] shìr  
 that-CL beggar boss beat-PERF *pro<sub>j</sub>* three-time C matter  
 chuán-biàn-le                      dàjiēxiǎoxiàng.  
 spread-throughout-PERF big.avenue.small.street  
 'As for that beggar<sub>j</sub>, the fact that [the boss beat *pro<sub>j</sub>* three times] has spread everywhere.'

d. 那个乞丐<sub>j</sub>, [老板殴打过 *pro<sub>j</sub>* 的]事儿传遍了大街小巷。  
 Nà-ge qǐgài<sub>j</sub>, [lǎobǎn ōudǎ-guò *pro<sub>j</sub>* de] shìr  
 that-CL beggar boss beat-EXP *pro<sub>j</sub>* C matter  
 chuán-biàn-le                      dàjiēxiǎoxiàng.  
 spread-throughout-PERF big.avenue.small.street  
 'As for that beggar<sub>j</sub>, the fact that [the boss beat *pro<sub>j</sub>*] has spread everywhere.'  
 (Pan 2020, with my gloss, translation and bracketing)

Recall that an overt resumptive pronoun can save the sentence from the potential violation of island constraints in an LD-structure (cf. 36a) but not in a relative clause (cf. 36b, c, d).

(36) a. 那个乞丐<sub>j</sub>, [老板殴打他<sub>j</sub> 的]事儿传遍了大街小巷。  
 Nà-ge qǐgài<sub>j</sub>, [lǎobǎn ōudǎ tā<sub>j</sub> de] shìr  
 that-CL beggar boss beat 3SG.M C matter  
 chuán-biàn-le                      dàjiēxiǎoxiàng.  
 spread-throughout-PERF big.avenue.small.street  
 'As for that beggar<sub>j</sub>, the fact that [the boss beats him<sub>j</sub>] has spread everywhere.'  
 (Pan 2020, with my gloss, translation and bracketing)

b. \*[[老板殴打了他<sub>j</sub> 的]事儿传遍了大街小巷的]那个乞丐<sub>j</sub> 最后还是逃跑了。  
 \*[[Lǎobǎn ōudǎ-le tā<sub>j</sub> de] shìr chuán-biàn-le  
 boss beat-PERF 3SG.M C matter spread-throughout-PERF  
 dàjiēxiǎoxiàng de] nà-ge qǐgài<sub>j</sub> zuìhòu  
 big.avenue.small.street C that-CL beggar finally  
 háishì táopǎo-le.  
 still escape-PERF  
 ('The beggar<sub>j</sub> that [[the fact that [boss beat him<sub>j</sub>] has spread everywhere] finally escaped.')

(Pan 2020, with my gloss, translation and bracketing)

- c. \*[[老板殴打了他<sub>j</sub> ; 三次的]事儿传遍了大街小巷的]那个乞丐<sub>j</sub> ; 最后还是逃跑了。  
 \*[[Lǎobǎn ǒudǎ-le tā<sub>j</sub> sān-cì de] shìr chuán-biàn-le  
 boss beat-PERF 3SG.M three-time C matter spread-throughtout-PERF  
 dàjiēxiǎoxiàng de] nà-ge qǐgài<sub>j</sub> zuìhòu  
 big.avenue.small.street C that-CL beggar finally  
 háishì táopǎo-le.  
 still escape-PERF  
 ('The beggar<sub>j</sub> that [[the fact that [boss beat him<sub>j</sub>; three times] has spread everywhere] finally escaped.')
- d. \*[[老板殴打过他<sub>j</sub> ; 的]事儿传遍了大街小巷的]那个乞丐<sub>j</sub> ; 最后还是逃跑了。  
 \*[[Lǎobǎn ǒudǎ-guò tā<sub>j</sub> de] shìr chuán-biàn-le  
 boss beat-EXP 3SG.M C matter spread-throughtout-PERF  
 dàjiēxiǎoxiàng de] nà-ge qǐgài<sub>j</sub> zuìhòu  
 big.avenue.small.street C that-CL beggar finally  
 háishì táopǎo-le.  
 still escape-PERF  
 ('The beggar<sub>j</sub> that [[the fact that [boss has beat him<sub>j</sub>] spread everywhere] finally escaped.')

Interestingly, a resumptive *pro* behaves exactly like an overt resumptive pronoun in that it cannot save the sentence from the violation of island constraints in a relative clause, as shown in (37 a, b). Importantly, the predicates in (37a, b) are *ǒudǎ-le sān-cì* 'beat-PERF for three times' and *ǒudǎ-guò* 'beat-EXP', which take *pro* as their object.

- (37) a. \*[[老板殴打了他<sub>j</sub> *pro* ; 三次的]事儿传遍了大街小巷的]那个乞丐<sub>j</sub> ; 最后还是逃跑了。  
 \*[[Lǎobǎn ǒudǎ-le *pro*<sub>j</sub> sān-cì de] shìr chuán-biàn-le  
 boss beat-PERF three-time C matter spread-throughtout-PERF  
 dàjiēxiǎoxiàng de] nà-ge qǐgài<sub>j</sub> zuìhòu  
 big.avenue.small.street C that-CL beggar finally  
 háishì táopǎo-le.  
 still escape-PERF  
 ('The beggar<sub>j</sub> that [[the fact that [boss beat *pro*<sub>j</sub> three times] spread everywhere] finally escaped.')
- b. \*[[老板殴打过 *pro*<sub>j</sub> ; 的]事儿传遍了大街小巷的]那个乞丐<sub>j</sub> ; 最后还是逃跑了。  
 \*[[Lǎobǎn ǒudǎ-guò *pro*<sub>j</sub> de] shìr chuán-biàn-le  
 boss beat-EXP C matter spread-throughtout-PERF  
 dàjiēxiǎoxiàng de] nà-ge qǐgài<sub>j</sub> zuìhòu  
 big.avenue.small.street C that-CL beggar finally  
 háishì táopǎo-le.  
 still escape-PERF  
 ('The beggar<sub>j</sub> that [[the fact that [boss has beat *pro*<sub>j</sub>] spread everywhere] finally escaped.')

Sentences in (38) also confirm the above observation. The presence of a resumptive *pro* can save the potential violation of island constraints in an LD-structure (cf. 38b) but not in a relative clause (cf. 38c).

(38) a. [答对那道几何题的]学生很少。

[Dá duì nà-dào jǐhé-tí de]  
answer correctly that-CL geometry.question C

xuéshēng hěn shǎo.  
student very few

‘The students who [correctly answered that geometry question] are very few.’

b. 那道几何题<sub>j</sub>, [答对 *pro<sub>j</sub>* 的]学生很少。

Nà-dào jǐhé-tí<sub>j</sub>, [dá duì *pro<sub>j</sub>* de]  
that-CL geometry.question<sub>j</sub> answer correctly *pro<sub>j</sub>* C

xuéshēng hěn shǎo.  
student very few

(Lit.) ‘As for that geometry question<sub>j</sub>, the students who [correctly answer *pro<sub>j</sub>*] are very few.’

c. ??[[答对 *pro<sub>j</sub>* 的]学生很少的]那道几何题<sub>j</sub> 确实很难。

??[[Dá duì *pro<sub>j</sub>* de] xuéshēng hěn shǎo de]  
answer correctly *pro<sub>j</sub>* C student very few C

nà-dào jǐhé-tí<sub>j</sub> quèshí hěn nán.  
that-CL geometry.question<sub>j</sub> indeed very difficult

‘The geometry question<sub>j</sub> that [very few students [correctly answer *pro<sub>j</sub>*]] is indeed very difficult.’

(Pan 2020, with my gloss, translation and bracketing)

## 5. Derivation of resumptive dependencies in Chinese

### 5.1 Derivation under the GB framework

Under the government-binding framework, island effects constitute strong evidence in favor of the derivation by movement. As observed in Chinese, all of the A'-dependencies containing a gap are derived by movement, which give rise to island effects. As shown in (39a, b), relatives with a gap and LD-structures with a gap both give rise to island effects, and as a result, we conclude that they are derived by movement.

(39) a. Relatives with a gap in Chinese is derived by movement

\*[CP-relative [island [TP ... \_\_\_\_<sub>j</sub> ... ]] C] NP<sub>j</sub>  
|\_\_\_\_\_x\_\_\_\_\_↑

b. LD-structures with a gap in Chinese is derived by movement

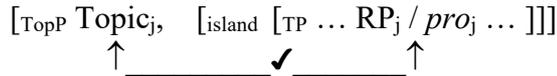
\*[TopP Topic<sub>j</sub>, [island [TP ... \_\_\_\_<sub>j</sub> ... ]]]  
↑\_\_\_\_\_x\_\_\_\_\_|

However, not all the resumptive dependencies are base-generated. A resumptive relative clause gives rise to island effects, and therefore, it is derived by movement, as shown in (40a); by contrast, a resumptive LD-structure is base-generated, which does not give rise to island effects, and therefore, it is base-generated, as shown in (40b).

(40) a. Resumptive relatives in Chinese are derived by movement

\*[CP-relative [island [TP ... RP<sub>j</sub> / *pro<sub>j</sub>* ... ]] C] NP<sub>j</sub>  
|\_\_\_\_\_x\_\_\_\_\_↑

b. Resumptive LD-structure in Chinese is base-generated



## 5.2 Derivation under the MP

Pan (2020) offers a minimalist derivation based on Agree and the Phase Impenetrability Condition (see Chomsky 2000, 2001). This analysis is based on a complex feature system. A detailed comparison between gap and *pro* under the minimalist consideration can be found in Pan (2016a, chap. 2). Here we only illustrate the difference in terms of formal features between the two elements.

First, all of the C heads, C-Top(ic) or C-Rel(ative), bear interpretable peripheral features so that these heads are interpreted as operators at LF (cf. Adger & Ramchand 2005; Rouveret 2008, 2011, 2019; Pan, 2016a, b, 2017). Concretely, C-Top bears an interpretable feature  $i[\text{Top(ic)}]$  and C-Rel bears an interpretable feature  $i[\text{Rel(ative)}]$ , both of which can be treated as variants of  $[\lambda]$  in the sense of Adger & Ramchand (2005). All of the C-heads (C-Top or C-Rel) bear an uninterpretable variable feature  $u[\text{var}]$  since variable feature is not interpretable on C-operators. C-heads can also bear an uninterpretable  $u[\phi]$  feature since  $\phi$ -agreement has been observed on complementizers in languages like West-Flemish (cf. Carstens 2003). In the Agree (i.e. feature valuation) system proposed by Chomsky (2000), only active Probe and active Goal can enter into Agree and only uninterpretable features can make a Probe or a Goal active, which is why C-heads need these uninterpretable features to remain active until the final phase of the derivation. The dual-featural system,  $[\text{Top}]-[\text{var}]$  or  $[\text{Rel}]-[\text{var}]$ , guarantees that both Probe and Goal are active before entering into each Agree operation.

Furthermore, gap bears an interpretable variable feature  $i[\text{var}]$  because gap is interpreted as a bound variable at LF. Gap also bears an interpretable feature  $i[\phi]$ . In addition, gap bears uninterpretable periphery features, such as  $u[\text{Top}]$  or  $u[\text{Rel}]$ , since operator features are not interpretable on variable-like elements, such as gap.

Third, resumptive pronouns always bear an interpretable feature  $i[\phi]$ . In a relative clause, the resumptive pronoun behaves like a gap in that both are interpreted as variables at LF, which is why resumptive pronouns bear an interpretable variable feature  $i[\text{var}]$  in relatives; by contrast, in an LD-structure, the resumptive pronoun is not always interpreted as a bound variable, and as a result, it can bear an uninterpretable variable feature  $u[\text{var}]$ . In addition, resumptive pronouns bear uninterpretable peripheral features (e.g.,  $u[\text{Top}]$  and  $u[\text{Rel}]$ ). Different from resumptive relatives, C-Top and the resumptive pronoun in an LD-structure can but need not necessarily construct an operator-variable pair (see Pan 2016a for details).

Fourth, *pro* bears an uninterpretable variable feature  $u[\text{var}]$  because *pro* is not always interpreted as a bound variable at LF. In addition, *pro* also bears an interpretable feature  $i[\phi]$  and uninterpretable peripheral features, such as  $u[\text{Top}]$  or  $u[\text{Rel}]$ .

Last, all the C-heads (C-Top or C-Rel) are phases and bear an EPP feature.

A very important technical detail in Pan's (2020) analysis is that two matched uninterpretable features do not Agree immediately. A phase containing uninterpretable features cannot be transferred to interfaces. The matched pair of uninterpretable features will be "forced" to be agreed until the final Transfer at the final phase cycle, as a last resort.

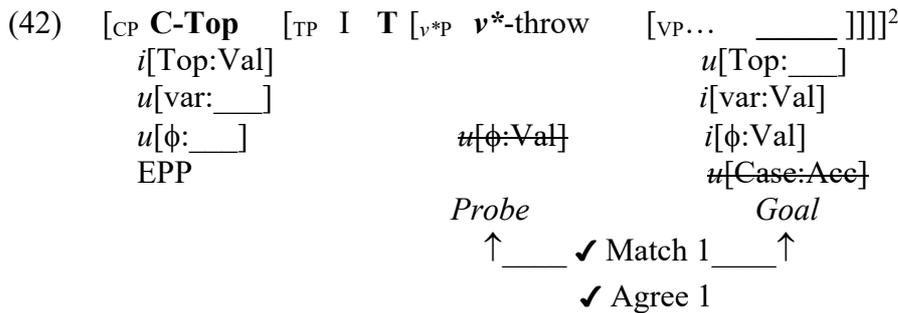
### 5.2.1 Cases without island

Start with an LD-structure with a gap in an island free context.

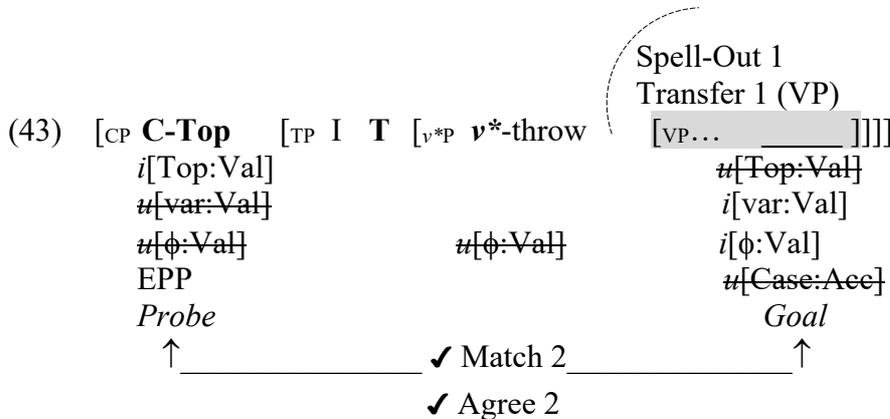
(41) LD-structure with Gap

那个苹果<sub>j</sub>, 我扔了\_\_\_\_<sub>j</sub>。  
 Nà-ge píngguǒ<sub>j</sub>, wǒ rēng-le \_\_\_\_<sub>j</sub>.  
 that-CL apple 1SG throw-PERF  
 ‘As for that apple<sub>j</sub>, I threw it<sub>j</sub> away.’

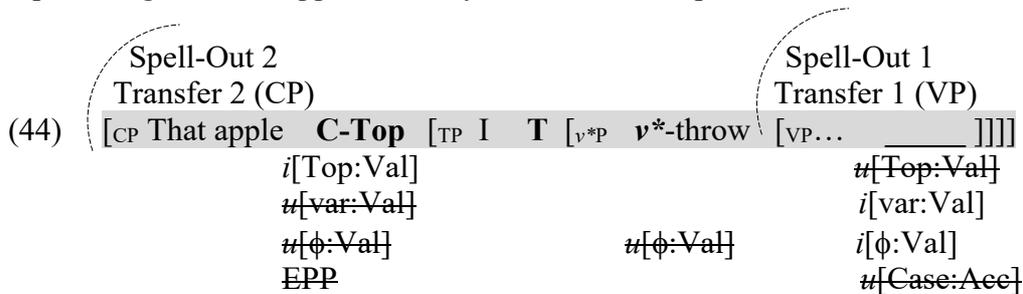
Step 1: Agree the transitive  $v^*$  head with the gap. Since both of them bear uninterpretable features, they are active. The  $i[\phi:Val]$  on the gap will value the  $u[\phi: \_]$  on  $v^*$ . The  $u[Case: \_]$  on the gap will get the null Accusative Case as the result of the  $\phi$ -Agree between  $v^*$  and the gap. Note that the gap is still an active Goal as it still contains an unvalued feature  $u[Top: \_]$ .



Step 2: Agree C with the gap and transfer the domain of the phase head  $v^*$ , i.e., VP, to the interfaces. The  $u[var: \_]$  and  $u[\phi: \_]$  on C-Top will be valued and the  $u[Top: \_]$  on the gap will also be valued.



Step 3: Merge DP-*that apple* to satisfy the EPP of C-Top. Then, transfer the rest of the structure.



<sup>2</sup> Note that  $i[Top:Val]$  stands for the interpretable feature [Topic] which is valued;  $u[Top: \_]$  means that the uninterpretable feature [Topic] is not valued.

### 5.2.2 Cases giving rise to island effects

Island is derived independently in a separate workspace, and the entire island will be transferred when the derivation of the given island is completed. When the Goal is located inside an island, Agree cannot proceed since the transferred Goal cannot agree with a Probe located outside the island. For instance,

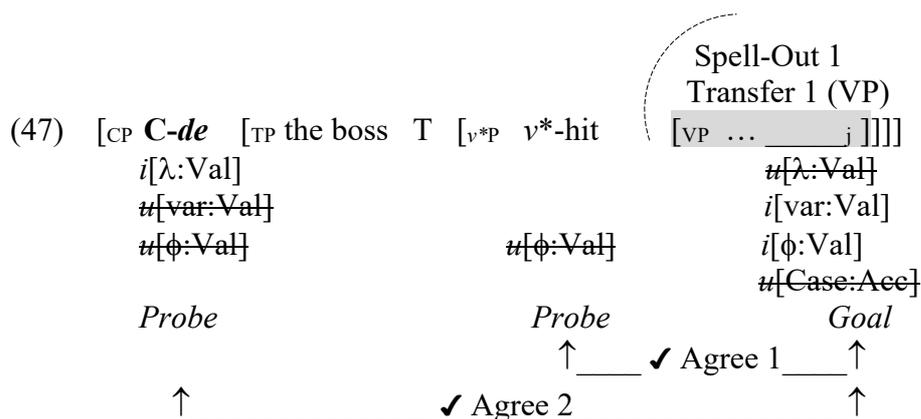
(45) \*那个员工<sub>j</sub>, [老板殴打 \_\_\_<sub>j</sub> 的] 事儿传遍了整个公司。

\*Nà-ge yuángōng<sub>j</sub>, [lǎobǎn ōudǎ \_\_\_<sub>j</sub> de] shìr  
 that-CL employee boss hit C fact  
 chuán-biàn-le zhěng-ge gōngsī.  
 spread-throughout-PERF entire-CL company  
 ('As for that employee<sub>j</sub>, the fact that [the boss beat \_\_\_<sub>j</sub>] has spread the entire company.')

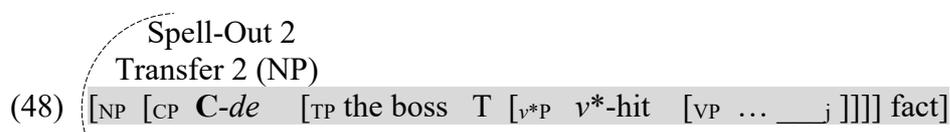
- Workspace 1: derivation of the island

(46) [NP [CP C [TP the boss T [<sub>v\*P</sub> v\*-hit [VP ... \_\_\_<sub>j</sub>]]] de] fact]

Steps 1-3: v\* agrees with the gap, and, C-de agrees with the gap. All the unvalued features are valued, and the VP is transferred.



Step 4: Merge the NP-*fact* and transfer the entire complex NP island. Once transferred, the potential Goal inside the island no longer can agree with a Probe located outside the island.



- Workspace 2: derivation of the matrix clause

The transferred complex NP island behaves like a giant lexical item, which is merged in workspace 2. Given that the Goal in the transferred island cannot agree with a Probe outside, the Probe C-Top still contains unvalued features, *u*[var: \_\_\_] and *u*[φ: \_\_\_]. The derivation crashes, and the sentence gives rise to island effects.

(49) \*<sub>[CP that employee<sub>j</sub>, C-Top [TP [NP [boss hit \_\_\_<sub>j</sub> de] fact] T [v<sub>P</sub> spread ...company]]]</sub>

<i>i</i> [Top:Val]	<i>u</i> [λ:Val]
<i>u</i> [var:___]	<i>i</i> [var:Val]
<i>u</i> [φ:___]	<i>i</i> [φ:Val]
EPP	<i>u</i> [Case:Acc]
<i>Probe</i>	<i>Goal</i>
↑ _____ ✗ Agree _____ ↑	

### 5.2.3 *pro*

Continue with an LD-structure with *pro* inside an island.

(50) 这部电影<sub>j</sub>, [看过 *pro*<sub>j</sub> 三次]的人很多。

Zhè-bù diànyǐng<sub>j</sub>, [kàn-guò *pro*<sub>j</sub> sān-cì ] de rén hěn duō.  
 this-CL movie see-EXP three-time C people very many  
 ‘As for this movie<sub>j</sub>, the people [who saw (it)<sub>j</sub> three times] are numerous.’

- Workspace 1: derivation of the island

(51) [NP [CP C [TP T [v\*<sub>P</sub> v\*-see [VP *pro*] three times]] de] people]

Recall that *pro* bears an uninterpretable variable feature *u*[var] because *pro* is not always interpreted as a bound variable at LF. The Probe *v\** agrees with *pro*. By contrast, C can only match with *pro* but not agree with it, and as a result, the uninterpretable *u*[var:\_\_\_] is still unvalued on both of them. The phasal domain VP cannot be transferred given that it still contains an unvalued feature.

(52) [NP [CP C [TP T [v\*<sub>P</sub> v\*-see [VP *pro*] three times]] de] people]

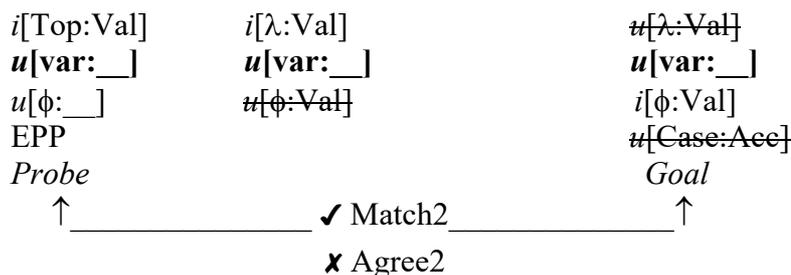
<i>i</i> [λ:Val]		<i>u</i> [λ:Val]
<i>u</i> [var:___]		<i>u</i> [var:___]
<i>u</i> [φ:Val]	<i>u</i> [φ:Val]	<i>i</i> [φ:Val]
		<i>u</i> [Case:Acc]
<i>Probe</i>	<i>Probe</i>	<i>Goal</i>
	↑ ___ ✓ Agree 1 ___ ↑	
↑ _____ ✓ Match2 _____ ↑		
	✗ Agree 2	

- Workspace 2: derivation of the main clause

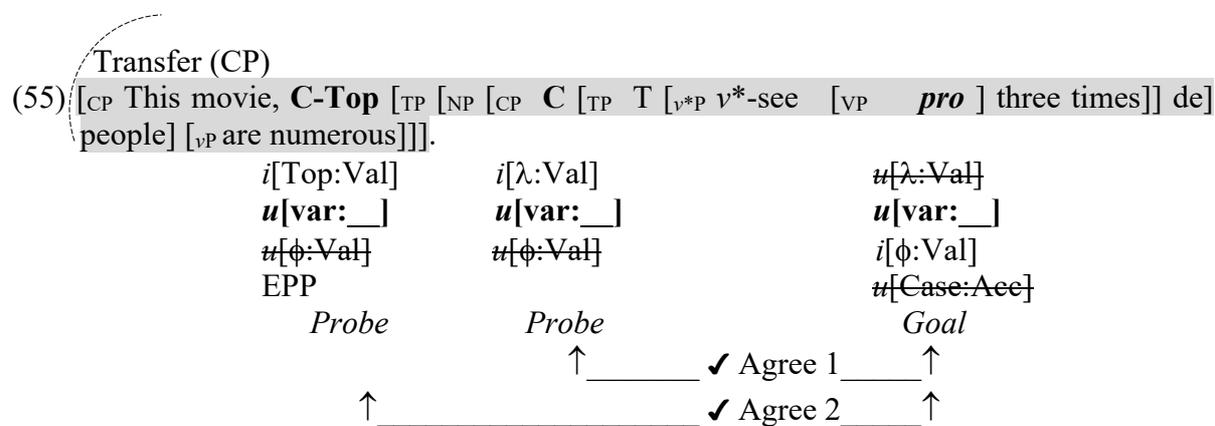
(53) [CP This movie, C-Top [TP [NP [CP C [TP T [v\*<sub>P</sub> v\*-see [VP *pro*] three times]] de] people] [v<sub>P</sub> are numerous]]].

Step 1: Since the island has not been transferred yet, *pro* can still agree with C-Top outside the island. C-Top and *pro* can match but they cannot agree since both of them contain an unvalued feature *u*[var:\_\_\_].

(54) [CP **C-Top** [TP [NP [CP **C** [TP T [<sub>v\*P</sub> v\*-see [VP *pro*] three times]] de] people] [<sub>vP</sub> are numerous]]].



Step 2: The topic phrase *this movie* is merged to satisfy the EPP on C-Top. At the final step, Agree applies to all of the matched uninterpretable features as a last resort. All of the unvalued features are eliminated, and the entire sentence is transferred, which is why there is no island effects.



## 6. Other resumptive elements in Chinese

Ning (1993), Huang, Li & Li (2009) illustrate a very interesting resumptive structure involving certain *wh*-phrases as resumptive pronouns. Certain *wh*-adjuncts, such as *rúhé/zěnmé* ‘how’, *wèishénme* ‘why’ can be used as resumptive pronouns inside a relative clause with *fāngfǎ* ‘method’ or *yuányīn* ‘reason’ as the head noun, as shown in (56a–b). By contrast, other *wh*-phrases, such as *shéi* ‘who’ or *shénme shíhòu* ‘when’ has no such a usage, as shown in (56c–d).

(56) a. ?他(如何/怎么<sub>i</sub>)修车的方法<sub>i</sub>, 没人知道。

?Tā (rúhé<sub>i</sub> / zěnmé<sub>i</sub>) xiū chē de fāngfǎ<sub>i</sub>, méirén zhīdào.  
3SG.M how how fix car C method nobody know  
‘Nobody knows the way<sub>i</sub> (how<sub>i</sub>) he fixed the car.’

b. ?他(为什么<sub>i</sub>)不来的原因<sub>i</sub>, 没人知道。

?Tā (wèishénme<sub>i</sub>) bù lái de yuányīn<sub>i</sub>, méirén zhīdào.  
3SG.M why NEG come C reason nobody know  
‘Nobody knows the reason<sub>i</sub> why<sub>i</sub> he didn’t come.’

c. 你看到{他<sub>i</sub>/\*谁<sub>i</sub>}妈妈的小孩<sub>i</sub>

Nǐ kàndào {tā<sub>i</sub> / \*shéi<sub>i</sub>} māma de xiǎohái<sub>i</sub>  
2SG see 3SG.M / who mother C child

‘the child<sub>i</sub> whose<sub>i</sub> mother you saw’

d. \*你在什么时候<sub>i</sub>来的时候<sub>i</sub>;

\*Nǐ zài shénme shíhòu<sub>i</sub> lái de shíhòu<sub>i</sub>  
2SG at what time come C time  
(‘the time when<sub>i</sub> you came at what time<sub>i</sub>’)

(adapted examples from Huang, Li & Li 2009:222 with my gloss)

Very importantly, this type of *wh*-resumptive dependency is still subject to locality conditions and it can give rise to island effects, as demonstrated in (57).

(57) a. \*这就是[[[[如果他(为什么<sub>i</sub>)生气]我会不高兴]的]原因<sub>i</sub>].

\*Zhè jiù shì [[[[rúguǒ tā (wèishénme<sub>i</sub>) shēngqì]  
this exactly is if 3SG.M why angry  
wǒ huì bù gāoxìng] de] yuányīn<sub>i</sub>].  
1SG will NEG happy C reason

(\*‘This is the reason<sub>i</sub> I will not be happy if he gets angry why<sub>i</sub>.’)

b. \*这就是[[[[如果他(怎么<sub>i</sub>)修车]我会不高兴]的]方法<sub>i</sub>].

\*Zhè jiù shì [[[[rúguǒ tā (zěnmē<sub>i</sub>) xiū chē]  
this exactly is if 3SG.M how fix car  
wǒ huì bù gāoxìng] de] fāngfǎ<sub>i</sub>].  
1SG will NEG happy C method

(\*‘This is the way<sub>i</sub> I will not be happy if he fixes cars how<sub>i</sub>.’)

(adapted examples from Huang, Li & Li 2009:222 with my gloss)

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