

External Possession Construction with Color Terms in Mandarin Chinese

Liумao Zhong

1 Introduction

External Possession Constructions (EPCs) are prevalent across a diverse array of languages and have been analyzed as originating from several structural patterns, including control structures (Gueron 1985, Vergnaud and Zubizarreta 1992, Vermeulen 2005, Hole 2004, Tomioka and Sim 2007), classical raising (Landau 1999, Deal 2013), thematic raising (Lee-Schoenfeld 2006, Rodrigues 2010, Duarte and Oliveira 2018, Rodrigues 2023), Exceptional Case Marking (ECM; Assmann et al. 2014), and possessum incorporation (Baker 1999, Baker et al. 2010, Andersen 2019). This work presents an EPC with color terms (EPCCT) in Mandarin Chinese that extends beyond the available typology.

EPCCT is a construction in Mandarin Chinese in which the possessor of a possessive phrase externalizes when the sentential predicate is an adjectival color term (1b).

- (1) a. Aniu de lian hong le.
Aniu DE face red PRF
'Aniu's face reddened.'
b. Aniu hong le lian.
Aniu red PRF face
'Aniu's face reddened.'

An ECM structure would have its possessor receive verbal cases inside the possessive phrase (Assmann et al. 2014), but, as in (1b), the possessor *Aniu* is physically detached from the possessum *lian* 'face', so EPCCTs like (1b) are not ECMs. Similarly, as the possessum *lian* 'face' is physically separated from the adjectival predicate *hong* 'red' by the aspectual marker *le*, the possessum of EPCCTs doesn't incorporate into the sentential predicate. While EPCCTs are not ECMs or possessum incorporation for obvious reasons, I argue that the control analysis yields the wrong predictions in terms of embedded possessors, and the available raising analyses are obligatorily case-driven but the externalization in EPCCT is optional. Based on a blocking effect that targets the possessive head, I argue that it is the incorporation of the possessive head that drags the possessor upward. This analysis explains the above properties that challenge available analyses and correctly predicts a series of selectional properties observed in EPCCTs.

Section 2 gives the two key properties of EPCCTs that challenge available analyses, together with two properties that involve something other than the possessor displacement and hint at the present proposal. Section 3 offers the DE-raising analysis. Section 4 tests the relevant properties with the proposal. Section 6 concludes.

2 More than Control or Raising

This section introduces crucial aspects of EPCCTs that available analyses, mainly the control analysis and the raising analysis, fail to capture. The classical raising analysis (Landau 1999, Deal 2013) and the thematic raising analysis (Lee-Schoenfeld 2006, Rodrigues 2010, Duarte and Oliveira 2018, Rodrigues 2023) share the assumption that the possessor raises to a verbal position for CASE reasons, though differing in whether the landing site is a thematic position, and thus they predict that raising is obligatory. The control analysis (Gueron 1985, Vergnaud and Zubizarreta 1992, Hole 2004, Vermeulen 2005, Tomioka and Sim 2007) assumes that the external possessor is base-generated and the possessive reading arises by controlling a PRO inside the possessive phrase. Here, I introduce some properties of EPCCTs that violate these assumptions and lead to the present proposal.

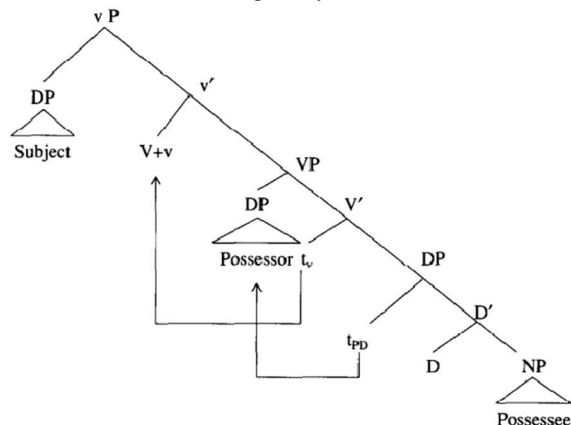
2.1 Optionality

Possessor externalization in EPCCTs is optional. All EPCCTs presuppose the existence of a counterpart sentence with internal possession, i.e., in which the possessor remains inside the possessive phrase. For instance, (2b) is an EPCCT its possessor-internal counterpart is (2a).

- (2) a. Aniu de lian hong le.
 Aniu DE face red PRF
 ‘Aniu’s face reddened.’
 b. Aniu hong le lian.
 Aniu red PRF face
 ‘Aniu’s face reddened.’

Many analyses (Landau 1999, Lee-Schoenfeld 2006, Rodrigues 2010, Deal 2013, Duarte and Oliveira 2018) assume that possessors obligatorily raise for case-checking. As an article whose idea gained widespread acceptance, Landau 1999 assumes that the possessor in (3) bears a dative feature which cannot be case-checked in the nominal domain and that it thus raises to the verbal domain for case-checking.

- (3) Landau’s (1999) raising analysis



The idea of case-driven raising is accepted in virtually all raising analyses, and what it implies is that the structure would fail if the possessor remains local to the possessive phrase. However, the optional nature of possessor externalization in Mandarin EPCCT poses a challenge to these raising analyses.

2.2 Main Possessor Only

In the case of complex possessors, only the main possessor can externalize. Complex possessors are possessors like *Aniu de shushu de lian* ‘Aniu’s uncle’s face’ (4a) in which the possessor is also a possessive phrase. In this case, only the main possessor *Aniu de shushu* ‘Aniu’s uncle’ in (4b) can externalize whereas the embedded possessor *Aniu* in (4c) cannot.

- (4) a. Aniu de shushu lian hong le.
 Aniu DE uncle face red PRF
 ‘Aniu’s uncle’s face reddened.’
 b. Aniu de shushu hong le lian.
 Aniu DE uncle red PRF face
 ‘Aniu’s uncle’s face reddened.’
 c. *Aniu hong le shushu de lian.
 Aniu red PRF uncle DE face.
 ‘Aniu’s uncle’s face reddened.’

Control analyses (Gueron 1985, Vergnaud and Zubizarreta 1992, Hole 2004, Tomioka and Sim 2007)

assume that external possessors are base-generated, and that the possessive interpretation is derived by binding a DP-internal PRO (5).

- (5) The Control Analysis
 Possessor_i ... [PRO_i...Possessum]

As a classical work in this respect, Gueron 1985 studies external possession in French and proposes that determiners in French are PRO bearing phi-features.

- (6) Jean lève la_{PRO} main.
 John raises the hand
 ‘John raises his hand.’

Jean is a base-generated argument of *lève* ‘raises’ but is interpreted as the possessor of *main* ‘hand’ because it controls the determiner *la* ‘the’ which Gueron 1985 proves to be a phi-bearing PRO in French. This analysis avoids a situation in which the possessor bears double theta roles (Vermeulen 2005) but yields incorrect predictions in Mandarin Chinese. In a control analysis, (1b) would have (7a) as its structure. Meanwhile, it may also yield (7b) and (7c) as the structures assumed for (4b) and (4c) respectively.

- (7) a. Aniu_i hong le [PRO_i lian].
 b. [Aniu de shushu]_i hong le PRO_i lian.
 c. Aniu_i hong le [PRO_i shushu de lian].

If PRO is justified at the subject position of *lian* ‘face’ (7b), then it’s also justifiably possible in the subject position of *shushu* ‘uncle’ (7c), contrary to the facts in (4c).

2.3 Extra Theta Roles

When the possessor externalizes, it is noticed that it becomes subject to several thematic selections. First, the externalized possessor must be alive (8b).

- (8) a. Aniu si le ranhou Aniu de lian hong le.
 Aniu die PRF then Aniu DE face red PRF
 ‘Aniu died and then Aniu’s face reddened.’
 b. *Aniu si le ranhou Aniu hong le lian.
 Aniu die PRF then Aniu red PRF face
 ‘Aniu died and then Aniu’s face reddened.’

This ‘alive requirement’ is reported in other languages like German (Lee-Schoenfeld 2006) and Brazilian Portuguese (Rodrigues 2010, Duarte and Oliveira 2018, Rodrigues 2023) and is commonly referred to as affectedness.

Second, the possessum must be a body-part expression (9a). By contrast, if the possessum is not a body-part expression, the possessor cannot externalize (9b).

- (9) a. Aniu hong le lian/yanjing/erduo/toufa.
 Aniu red PRF face/eye/ear/hair
 ‘Aniu’s face/eye/ear/hair reddened.’
 b. *Aniu hong le fengye/caomei/yifu/zuowei.
 Aniu red PRF maple/strawberry/clothes/seat
 ‘Aniu’s maple/strawberry/clothes/seat reddened.’

The movement of α is not expected to lead to a selection on β and a possible account is that the possessor raises to be the theme of *hong* ‘red’. When the possessor and the possessum are both themes of the same predicate, predicating the possessum and predicating the possessor must be realized in one single eventuality (organized as a core event and an extended telic state in the fashion

of Ritter and Rosen 1993). For this reason, only body-part expressions are conceptually possible. When Aniu's face becomes red, Aniu also becomes red (though in a less obvious way); by contrast, when Aniu's maple becomes red, there is no entailing consequence for Aniu to become red too. A more obvious case is observed when the predicate is a transitive verb like *ti* 'kick'. Only body-part expressions license the possessor externalization.

- (10) Aniu bei ti le lian/tou/*chezi/*zhuzi.
 Aniu PASS kick PRF face/head/car/desk
 'Aniu's face/head/car/desk was kicked.'

For space reasons, I will explore the full account elsewhere, but the generalization observed in such cases is that possessor externalization in (10) is possible only when predicating on the possessum entails predicating on the possessor. In the same fashion, the body-part possessum requirement in EPCCTs is also interpreted as a double theme structure where the possessor externalizes as theme of the adjective.

Third, when the adjectival predicate is further merged with another predicate, e.g. *ku* 'cry', the theta role of the additional predicate will be active only when the possessor is external:

- (11) a. Aniu de lian (*guyi) ku hong le.
 Aniu DE face deliberately cry red PRF
 'Aniu deliberately cried s.t. his face became red.'
 b. Aniu (guyi) ku hong le lian.
 Aniu deliberately cry red PRF face
 'Aniu deliberately cried s.t. his face became red.'

Ku 'cry' is an unergative that takes an agent role but the agent role is implicit in (11a) as the adverb *guyi* 'deliberately' indicates, whereas *Aniu* becomes the agent of *ku* 'cry' when it externalizes (11b).

Among these roles, only affectedness is discussed in the literature. Proposed solutions include postulating an affective head to which the possessor moves into (e.g. Lee-Schoenfeld 2006) or assuming a possessor base-generated as the specifier of an affective head which subsequently controls into the possessive phrase (e.g. Gueron 1985). However, applying these available approaches here requires the postulation of three extra heads, two of which bear exactly the same thematic structure as *ku* 'cry' and *hong* 'red'. What is the nature of these heads? Besides, postulating two same *hong*'s with one over the maximal projection of the other would undesirably lead to a potentially endless recursion. This step is not one I want to take. These roles bear more resemblance to activated theta roles in available heads than theta roles applied by additional heads. Then how can these available roles be (re-)activated?

2.4 Barriers

A distinctive characteristic, not found elsewhere, is that possessor externalization gets blocked when an unstressed demonstrative *zhei/nei* is present in the possessum. Demonstratives play an important role in the nominal domain, and in Mandarin, they are realized in two versions: a stressed form, such as *zhe* 'this' or *na* 'that,' and an unstressed form, like *zhei* or *nei*. Both versions can appear in the nominal domain, as seen in examples like *zhe-ge haizi* 'this kid' or *zhei haizi* 'this kid'. However, it is important to note that adding an unstressed demonstrative is not acceptable in EPCCTs. While (12) without *zhei/nei* is fully grammatical, adding *zhei/nei* renders the sentence ungrammatical.

- (12) Aniu hong le (*zhei/*nei) lian.
 Aniu red PRF ZHEI/NEI face
 'Aniu's face reddened.'

A typical interpretation of the blocking effect is either that the barrier and the blocked element are competing for the same Spec position or that the barrier projects a Spec position which a moving element cannot occupy. For whichever reason, the barrier and the blocked element cannot appear together. Interestingly, the possessor and the barrier *zhei/nei* can co-occur (13).

- (13) Aniu zhei/nei lian hong le.
 Aniu ZHEI/NEI face red PRF
 ‘Aniu’s face reddened.’

So (12) indicates a barrier effect but in (13), *zhei/nei* does not seem to be blocking *Aniu*. Then what is *zhei/nei* blocking?

This article highlights a noteworthy observation: when situated within the nominal domain, the possessor never moves in isolation (14c); instead, it must be displaced alongside its possessive head *DE* (14b).

- (14) a. yi-zhang Aniu de lian
 One-CL Aniu DE face
 ‘A face of Aniu’s’
 b. Aniu de yi-zhang lian
 Aniu DE one-CL face
 ‘A face of Aniu’s’
 c. *Aniu yi-zhang de lian
 Aniu one-CL DE face
 ‘A face of Aniu’s’

Aniu is base-generated as a possessor in the theta domain of the possessum *lian* ‘face’ and is thus below the classifier phrase; thus (14a) is considered the base structure and (14b–c) as potential dislocations. If this aligned movement is maintained in the verbal domain, *DE* is a potential element that unstressed demonstratives block: *DE* and *zhei/nei* cannot co-occur (15).

- (15) *Aniu de zhei lian
 Aniu DE ZHEI face
 ‘Aniu’s face’

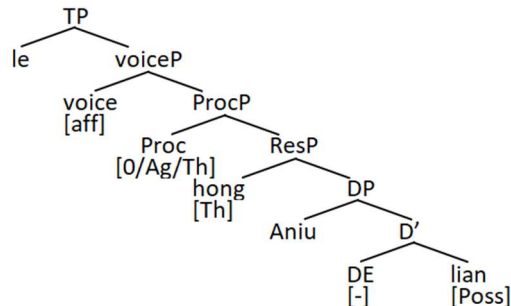
It appears that we are faced with a structure that extends well beyond the scope of available structures. While it is not an ECM or possessum incorporation, it does not fit the characteristics of a case-driven raising or a control structure either. Intriguingly, the possessor is externalized alongside another constituent; yet the precise rationale for this phenomenon remains puzzling.

3 *DE*-raising

This section puts together the above observations and argues that what accompanies the possessor externalization is an incorporation of *DE* into the verbal domain. Basically, what *zhei/nei* blocks is *DE* and what activates relevant theta roles is also *DE*.

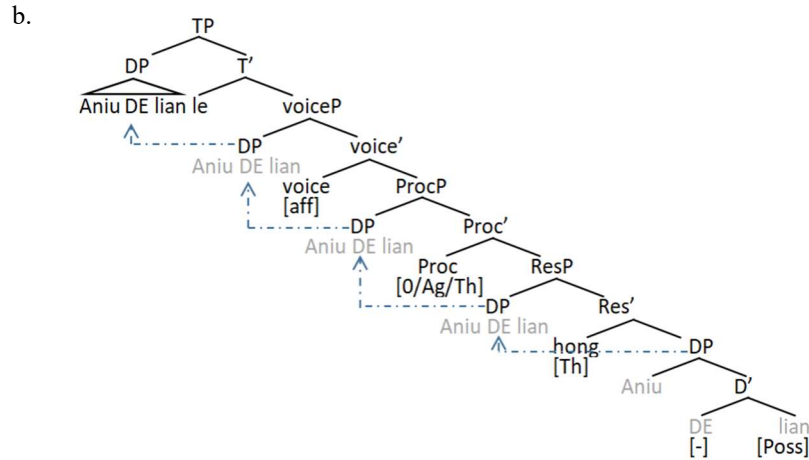
Underlyingly, I follow Ramchand (2008) to assume a verbal spine which decomposes into a process phrase (ProcP) and a resultative phrase (ResP); above the verbal domain is a voice phrase (voiceP) which is capable of assigning an affectee role. The base structure is given in (16)

- (16) Base structure



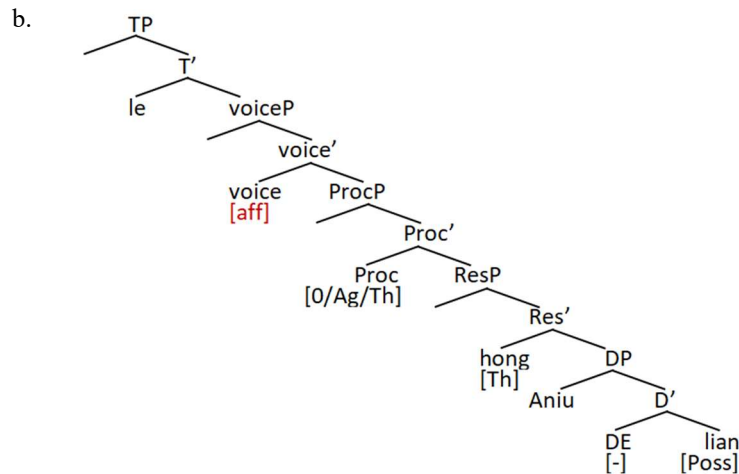
To derive the possessor-internal counterpart (1a), repeated below as (17a), we simply need to move the possessive phrase up to the subject position (and then move V to T for word order).

- (17) a. Aniu de lian hong le.
 Aniu DE face red PRF
 'Aniu's face reddened.'



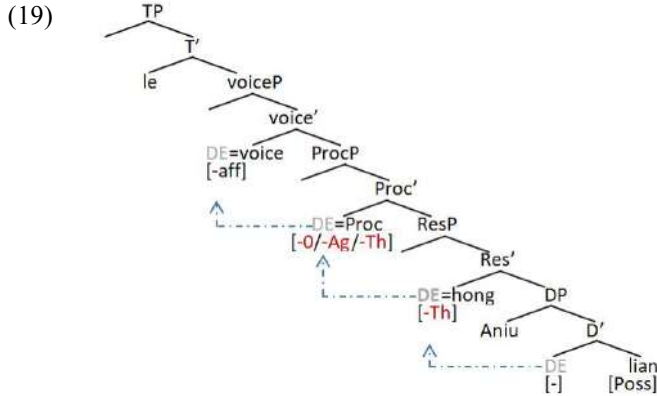
To derive the EPCCT in (1b), repeated as (18a), the only change in the base structure is that the voice head bears an active theta feature [aff] to discharge (18b).

- (18) a. Aniu hong le lian.
 Aniu red PRF face
 'Aniu's face reddened.'

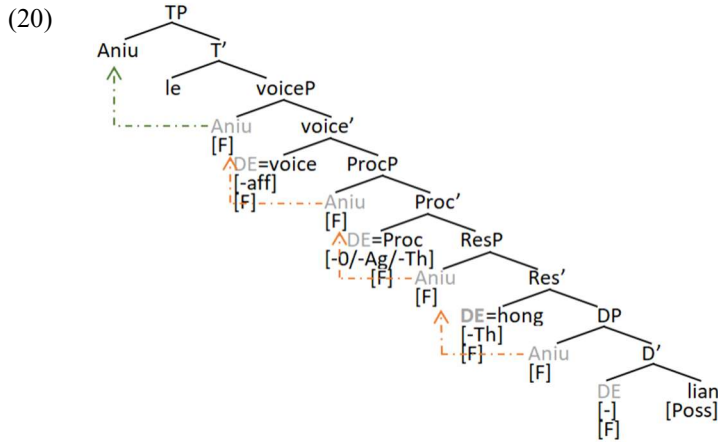


Out of Enlightened Self-Interest (Lasnik 1995), *DE* moves upward to discharge [aff], landing cyclically on intermediate heads. All these intermediate heads bear inherent thematic structures and thus each copy of *DE* identifies with these heads in each step, integrating *Aniu* as the argument of each intermediate head. The possessive head is thematically unspecified (Williams 1985), so that for full interpretation at LF, it must identify with a head (Burton 1995). For example, in the nominal domain, *John's book* can be anything possible in the context: the book that John bought, the book that John wrote or the book that John is reading; however, *John's wife* can only mean the individual that John is married to. Two points arise here: first, the free interpretation of *John's book* indicates that the possessive relation is semantically empty (and is thus enriched by the context); second, when the

possessum is relational, meaning that they bear inherent thematic structures like *Marry(x,y,e)* in *wife*, the possessive relation gets specified by the possessum. That is, the possessive relation ‘learns’ from the possessum what role the possessor should undertake. The general result is that the argument becomes the argument of the head it identifies with. This mechanism arises simply because of the empty nature of the possessive relation and is also active in the verbal domain. For example, as Ritter and Rosen 1993 reveals, the possessive predicate *have* can also integrate its argument as the argument of the predicate it is merged with. For example, in the sentence *John had his students walk out of class*, *John* is an argument introduced by the possessive predicate, and because the possessive predicate is semantically empty, *John* is interpreted as a cause or an experiencer of the walking event. Consequently, when *DE* moves up in (19), it identifies with the head it moves to and integrates *Aniu* as a role to that predicate.



As is cross-linguistically common, there is an agreement relation between the possessor and the possessive head, represented as [F]. To check [F], the possessor is dragged upward.

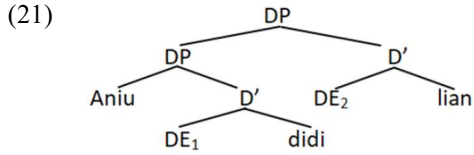


Then, the possessor at Spec,voiceP raises to the subject position, and for word order reasons, V moves to T, concluding the derivation. In this derivation, when the possessor moves from Spec,DP to Spec,voiceP, all the landing sites become thematically (re-)activated because of *DE*. Thus, the possessor becomes the second theme of *hong* ‘red’, the agent/theme role of the Proc head if any, and the affectee.

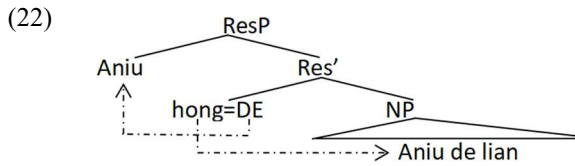
4 Predictions

In this article, EPCCT is found to have four properties: optionality, main possessor only, blocking effect, and extra theta roles. Without appealing to case-checking, this article derives both the pos-

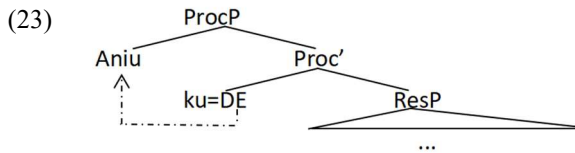
essor-internal construction and possessor-external construction. As I argue, possessor externalization is not a necessary condition for grammaticality; instead, this article emphasizes the pivotal choice of voice and how this choice significantly influences the overall interpretation. Second, it is also predicted that only the main possessor can externalize since DE_2 in (21) is structurally highest. For minimality reasons, only the highest DE can be seen by the voice head, and thus, only the main possessor can externalize.



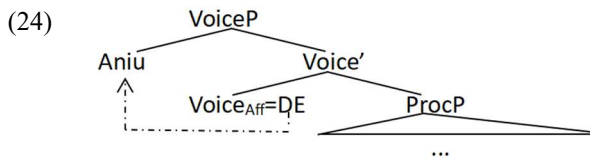
Third, the extra theta roles are captured as event identification of DE with the head it moves to. I follow the Neo-Davidsonian tradition of assuming that each head bears only one theta role. As for the double theme, the first theme is taken by the possessive phrase *Aniu de lian* 'Aniu's face' when it is first merged with *hong* 'red' (in the base structure). Then, when DE moves to *hong* 'red', DE identifies with *hong* 'red' and integrates its argument *Aniu* as the theme of *hong* 'red'.



As for the agent role, when DE moves to *ku* 'cry', DE identifies with *ku* 'cry' and fits *Aniu* as the agent of *ku* 'cry'.



As for the affectee, when DE moves to $\text{Voice}_{\text{Aff}}$, DE identifies with $\text{Voice}_{\text{Aff}}$ and fits *Aniu* as an affectee.



Fourth, the blocking effect by *zhei/nei* arises from the fact that moving DE to *zhei/nei* is impossible. By contrast, all DP-internal projections that allow possessor externalization allow DE to co-occur to its left.

- (25) a. Aniu de zhei/nei lian
 Aniu DE ZHEI/NEI face
 'Aniu's face'
 b. Aniu de suoyou/liang-zhang/zhe-chang/meilide lian
 Aniu DE all/two-CL/this-CL/beautiful face
 'Aniu's all/two/this/beautiful face'

When DE cannot move across *zhei/nei*, it cannot move further above to the voice head due to head movement constraints, and thus the blocking effect shows up.

5 Concluding Remarks

This article delves into external possession constructions with color terms in Mandarin Chinese, revealing unique properties that challenge existing analyses. While most raising analyses are case-driven, the optional nature of EPCCT defies a case-driven explanation. The control analysis incorrectly predicts the embedded possessor's externalization, which is impossible in Mandarin. Additionally, an intriguing blocking effect occurs when an unstressed demonstrative prevents possessor externalization but allows it to remain in its Spec position, indicating the involvement of an accompanying element. Remarkably, when a possessor displaces in the nominal domain, the possessive head must also be displaced. This aligned movement explains the otherwise baffling blocking effect. Meanwhile, this aligned movement also explains the additional theta roles which emerge during possessor externalization. Being thematically unspecified, when DE moves to the verbal domain, it identifies with the relevant predicate and fits its argument into the thematic structure, thus activating an additional theta role. Thus, these converging observations reinforce and attest each other, establishing the viability of the present proposal.

Nevertheless, there is an issue remaining to be fully resolved. It is unclear why *DE* becomes null in PF when moves out of DP, and more comprehensive study is needed to elucidate the PF rules for *DE* and this goes beyond the scope of the present study. As an inconclusive but helpful observation, it seems that *DE* can be pronounced when it appears between two V's in the verbal domain. For example, *DE* can be overt in (23) when it appears between two V's.

- (26) Aniu ku de hong le lian.
 Aniu cry DE red PRF face
 'Aniu cries such that his face becomes red.'

This *DE* in (23) is written differently from the nominal-internal *DE* but the distinction arose because of prescriptivism in the 20th Century and they go back to the same origin. Alternatively, it may be that *DE* has a PF-null version or maybe it is incorporated into the verb as Freeze (1992) shows. These choices remain open so far.

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Department of Linguistics
Stony Brook University
Stony Brook, NY 11794
liumao.zhong@stonybrook.edu