A Post-Transformational Study of Phrasal Possessive Constructions in English

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Abstract

This paper observes the three modules of government-binding (henceforth GB) theory which come into existence after transforming a syntactic string from D-structure to S-structure level. Transforming a syntactic structure via the process of movement leads to the appearance of a new structure, which is different from the original one at D-structure level. Here the focus is on the phrasal possessive constructions to which bounding (movement) theory, government theory, and binding theory are applied.

The paper tries to provide a possible answer to the question of whether there is any relationship between the three post-transformational modules or not with respect to possessives. Also, and more importantly, it aims at indicating the extent to which possessives adhere to the modules. The paper is a theoretical one whose data is from textbooks and scholarly articles, rather than from participants. One of the outstanding conclusions is that the two modules of government theory and binding theory are highly intertwined due to sharing the structural relation of c-command.

Key words: possessive constructions, movement, government, binding, c-command.

1. Introduction

Possessives in English have drawn the attention of a considerable number of scholars from various schools of grammar: generative, functional, and cognitive. As the scope of the study is generative, the focus will be on the form of possessive constructions. Sometimes the term ‘genitive’ is used instead of ‘possessive’. It is argued that they are distinct because the term ‘possessive’ is used to refer to the entire construction while ‘genitive’ is the case which is carried by an element, namely the possessor, in the possessive construction. Moreover, the genitive case is one of the cases found in GB theory. Perhaps this is why the two terms are sometimes used interchangeably within the generative literature, and it may be confusing due to syntactic positions or semantic interpretations (cf. Partee & Borschev, 2003; Willemse, 2007). The general schema of a typical phrasal possessive construction, e.g. prenominal possessive, consists of two elements: a possessor and a possessee as a head.

(1) John’s house

Possessives in English can appear both in phrasal as well as clausal forms. It is worthwhile to note that the vast majority of studies in the possessive literature are about phrasal possessives. Possessive phrases can be expressed in two ways: via the possessive morpheme’s (henceforth POSS) and the semantically empty preposition of. A very significant fact to be recognized is that possessives are not solely about ownership. The term ‘possessive’ is much broader than a term conveying the relation of ownership or possession between two entities. Considering examples such as John’s mobile, my mother, the tree’s blossom, your
manager, the test of the engine, a friend of John’s, etc., we see that they are possessive constructions, but only some of them convey possession or ownership (cf. Dixon, 2005).

There exist three syntactic types of phrasal possessive constructions: prenominal possessive, postnominal possessive, and double genitive possessive. The first type has the structure $X’s Y$, meaning that is recognized by POSS. The structure of the second is $Y of X$, in which the semantically empty preposition $of$ appears. In the third one, as the name suggests, both possessive markers occur, namely POSS and $of$. Its syntactic structure is $Y of X’s$. The three phrasal constructions are exemplified below:

(2) a. John’s car
b. The observation of the case
c. A friend of David’s

2. Movement in Possessive Constructions

Relevant to Bounding (or movement) theory of GB is the movement of the components of a possessive construction. The vast majority of the work in generative literature has been devoted to the movement that happens in prenominal possessives. In what follows, we discuss the movement in possessive constructions at length.

2.1 Movement in Prenominal Possessives

It was previously noted that the general schema of prenominal possessives is $X’s Y$. The crucial question to be answered is whether the given schema is the D-structure or the S-structure of the possessive. It is generally agreed upon that what we see in $X’s Y$ is the S-structure, meaning that it is the result of movement.

As known, the head movement is always upwards. But the movement that happens in prenominal possessives is not clear-cut though it is upwards. In NPA, it is the movement of GP to spec; the lexical head of the whole phrase, i.e. NP, undergoes no movement. On the other hand, taking DPA into account, it is the movement of the functional head and its complement to spec, DP. Thus, in both cases the GP or the possessor originates in a lower position and moves to a higher position. In doing so, the movement happens from the lower Spec position to the higher one. Following the contemporary DPA rather the traditional NPA, the possessor or the GP moves from spec NP to spec DP. The movement is known as Poss Movement.

The purpose of the upward movement is to be case-marked. A significant point to be mentioned is the number of movements because we can argue for one movement or two movements. Also, the status of D is not obvious in the syntactic tree as it can be ‘s or a null AGR morpheme. Regardless of whether or not the ‘s is D or G in the possessive structure, it is unambiguously the factor of case-realization to the left, like other functional heads. As stated before, the GP is a modifier when the head is a pure noun, but this modifier is not an adjective; it is a noun, hence it requires Case in accordance with Case filter condition (cf. Coene & D’hulst, 2003; C. Lyons, 1999; Massam, 1993; Puckica, 2013).

Now substantiating the discussion with an example of prenominal possessives such as Mary’s book, one notes that the DPA suits best with this kind of movement. This is because only in DPA we have two spec positions: the lower (spec, NP) and the higher (spec, DP). The tree of (3) is the D-structure of Mary’s book, and those of (4a-c) are the possible S-structures of the same possessive phrase.

(3) Mary’s book
Although only the first two S-structure trees are seen in the literature, the third one (4c) could be considered best because it supports our own analysis which validates GP in the spec, DP.
The phrasal structure is ungrammatical when the lexical head of the possessive construction is a derived nominal. The situation alters when a gerund is used instead of a derived nominal. In relation to this, Abney (1987) confirms that “The gerund differs from non-gerundive noun phrases in that raising is possible” (p. 130, original emphasis). On this assumption, examples like (5b) are grammatical. The possible occurrence of such structures is based on the permissible movement of the logical subject to the spec, DP to be case-marked.

(5) a. *Mary’s appearance/likelihood/semblance to be surprised
   b. Mary’s appearing/being likely/seeming to be surprised

The syntactic tree of (5b) can be shown in (6):

(6)

Parallelism could be seen between the structure of the prenominal possessive DP and IP. In the case of having raising predicates where an infinitival clause is the complement of the predicate (verb), the IP can be changed to a possessive DP after moving the logical subject to the structural position available in S-structure, i.e. spec, DP (see Johnson, 2004).

2.2 Movement in Possessives with a Derived Nominal Head

Rozwadowska (1988) states that derived nominals behave differently in terms of movement. Psych nominals are base-generated and the lexical prepositions such as of, in, at, etc., which are known as genuine or base-generated prepositions, block the movement of the non-affected argument to the Spec position. Thus, the structure is itself available at D-structure. On the contrary, action nominals undergo two transformations via the T-rules of NP-preposing and of-insertion (inserting the dummy preposition of). The transformationally inserted of in possessives with an action nominal head allows movement and cannot be a blocking category, as the base-generated lexical preposition of does in psych nominals (see also Johnson, 2004; Uriagereka, 2008). Below both cases are exemplified respectively, with syntactic trees of S-structure of action nominals to show the movement.

(7) a. The people’s disillusionment with the president
   b. *The president’s disillusionment of the people

(8) a. Observation the room                     (D-structure)
   b. The observation of the room              (of-insertion)
   c. The room’s observation (by John)        (NP-preposing)

The S-structure trees of (8b-c) will be as follows:
b. The observation of the room

\[
\text{DP} \rightarrow \text{Spec} \quad D' \quad \text{the} \quad \text{NP} \quad \text{observation} \\
\quad \text{\O} \quad \text{N} \quad \text{PP} \quad \text{\O} \quad \text{P} \quad \text{DP} \quad \text{of} \quad \text{the room}
\]

c. The room's observation

\[
\text{DP} \rightarrow \text{Spec} \quad D' \quad \text{the} \quad \text{NP} \quad \text{room's} \quad \text{\O} \quad \text{Spec} \quad N' \quad \text{Observation}
\]

Concerning gerunds, Abney (1987) claims that Poss-ing construction differs from Acc-ing construction with respect to the movement of the complement. To him, an example like (9b) is grammatical while one like (10b) is not.

(9) a. We remember him describing the city.
   b. The city that we remember him describing

(10) a. We remember his describing the city.
   b. *The city that we remember his describing

The ungrammaticality of (10b) implies that Subjacency condition blocks the movement in prenominal possessives with a gerundive nominal head. Semantically speaking, in (10a) one person's description of the city is taken into account.

2.3 Movement in Double Genitive Possessives

Movement in this type of possessive construction is much more complicated than the one in the other types discussed so far. According to Barker (1998), the double genitive possessive is the result of a movement in prenominal possessives. Two possibilities have been presented: head movement in the prenominal possessive and the maximal projection raising. The former is rejected because it violates the ECP as the head cannot move past the closest governing head. Therefore, the second hypothesis is applied. In accordance with this, the possessive construction of (11c) has (11a), not (11b), as its D-structure because ECP does not permit the movement in a situation like (11b).

(11) a. [\O [D [Mary ['s [three friends]]]]] (D-structure)
   b. Three of Mary's friends
   c. [\text{SPEC} [Three friends], [N [P of] [NP, Mary ['s t_i]]]] (S-structure)

The occurrence of relative clauses (CP) as the complement of the lexical head in double genitive possessives is worth discussing. The core of this issue can be found in Kayne (1994) where he claims that the double genitive possessive raises to sit in spec, CP and the
determiner, when available, stands external to the CP. On such grounds, CP appears as the complement of D: $[\text{DP } D \text{ CP}]$. What seems problematic here is the existence of a quantifier phrase in the prenominal possessive because we said that the origin of the double genitive possessive is the prenominal possessive. In this way, the movement of the possessee to Spec results in ungrammaticality (see also Bernstein, 2001; van Riemsdijk, Koster, & van der Hulst, 2004). What is stated about the movement of the possessive construction to Spec CP holds true even when there is no QP. Consider the following examples:

(12) a. Kate’s several letters  
    b. *The several letters of Kate’s  
    c. $[\text{DP The } [\text{CP } [\text{NP picture of John}], [\text{C’ that } [\text{IP Mary took t}_i]]]]$

The ungrammaticality of (12b) can be solved by adding a relative clause (CP) as the complement as shown in (13).

(13) The several letters of Kate’s that she wrote yesterday

Having considered the situation, it can be said that the possessive DPs of (12c), which is a picture-NP, and (13), which is a double genitive possessive, are originally IPs. The raising of the possessive construction inside the IP leads to the conversion of IP to possessive DP with a CP complement. The tree of (13) can be something like (14) below.

\[
\text{DP} \quad \text{Spec} \quad \text{D’} \quad \text{the} \quad \text{D} \quad \text{CP} \quad \emptyset \quad \text{Spec} \quad \text{C’} \quad \text{several letters} \quad \text{C} \quad \text{IP} \quad \text{of Kate’s that she wrote yesterday}
\]

2.4 Wh-Movement in Possessives

In this section, permissible and impermissible wh-movements are discussed. The possessive wh-word whose, which is used in the same position as the possessor in prenominal possessives, must be moved with its following word, namely the possessee. In this regard, Radford (2004) states that whose cannot move on its own because of Left Branch Condition, according to which the leftmost element of a structure cannot be separated from the structure containing it. Thus, whose like other expressions with genitive case occupies the spec position and is followed by another element within the possessive phrase. This can be exemplified in the examples of (15 a-c).

(15) a. You have seen whose brother?  (D-structure)  
    b. *Whose have you seen brother?  
    c. Whose brother have you seen?  (S-structure)

The syntactic trees of pre-transformation stage (15a) and post-transformation stage (15c) are shown in (16a-b), respectively.
The tree diagram above indicates that the C position is occupied by have via the process of movement from. To Cook and Newson (2007), the wh-element is a phrase; therefore, it can sit in the Spec and leave the C position empty. In doing so, the C becomes available to accommodate the auxiliary. This happens due to the fronted wh-element.

The wh-movement in question can only be seen in prenominal possessives, not in the other two types. This can be shown in the following examples (Nguyen, n.d., p. 9):

(17) a. Pal painted Job’s house. (prenominal possessive)
    b. Whose house did Pal paint?

(18) a. John likes this picture of Jill. (predicative possessive)
    b. *This picture of who does John like?
    c. Who does John like this picture of t1?
(19) a. Juan likes that shirt of yours. \text{(double genitive possessive)}
    b. *That shirt of whose does Juan like?

Another point to be made in relation to wh-movement is the matter of specificity. Abney (1987) argues that examples like (20a) are grammatical whereas those like (20b) are not (cf. Hawkins, 2004):

(20) a. Who did you see a picture of t?
    b. *Who did you see his picture of t?

The reason for well-formedness of (20a), which is a postnominal-like possessive, is that the picture in question is not a specific one. By contrast, the picture in (20b), which is a prenominal possessive, is a specific one, and the structure is ill-formed. Hence, we consider that wh-movement is blocked in prenominal possessives while it is allowed in postnominal-like possessives \textit{only} when the focus is upon specificity.

The difference between prenominal possessives and descriptive possessives is worth noting in terms of wh-movement. Let us consider the following examples from Taylor (1996, p. 291):

(21) a. I found [that woman’s] magazines.
    b. Whose magazines did you say you had found?
(22) a. I found those [woman’s] magazines.
    b. *Whose magazines did you say you had found?

It is noted that whose in (21b) is co-referential with an individual in (21a), and it is possible. Conversely, whose in (22b) cannot be co-referential with any individual. Rather, it refers to a type of entity. This indicates that whose must be used to refer to specific entities, not a type. Thus, this type of movement is blocked in descriptive possessives; yet, it is grammatical in prenominal possessives.

3. Government Relation and Possessives

The phenomenon of government theory in connection with possessives is so much simpler, as compared to other GB modules. Government is closely intertwined with binding when we apply them on possessives. Here we just focus on government relation and we put aside binding phenomenon to the next section. It is worth noting that what is called governor varies with regard to DPA or NPA. As pointed out in Abney (1987), in prenominal possessives, the governor is the head noun in NPA while it is POSS with respect to DPA. Taking NPA into account, we see that POSS appears in a governed position. But gerundive nominals can normally occur in prenominal possessives; therefore, we can postulate that POSS equally appears in governed as well as ungoverned positions.

(28) a. I prefer Mary’s book. \text{(governed)}
    b. I prefer Mary’s reading the book. \text{(ungoverned)}
    c. I prefer PRO reading the book. \text{(ungoverned)}

Government is a relationship between two entities. In possessives, the relation is between the governor (possessee) and its subject (possessor), adopting NPA. Thus, the governing category (GC) is the whole possessive construction itself because, like clauses, it has a subject. Having a subject is the necessary condition of a GC in accordance with Extended Projection Principle (see Cook & Newson, 2007). When gerunds occur, there is no GC as there is no governor. Chomsky (1981) presents two general schemas to show GC; they represent the GC in prenominal and postnominal possessives as seen in (29a-b), which are adapted from Chomsky (1981, p. 207).

(29)
a. Prenominal

\[ \text{NP} = \text{GC} \]

\[ \beta \quad \text{governs} \quad N' \]

b. Postnominal

\[ \text{NP} = \text{GC} \]

\[ \beta \quad \text{governs} \quad \text{PP} \]

\[ \text{N} \quad \text{P} \quad \alpha \]

On this basis, example (30a) is ungrammatical because a pronoun must be free in its GC, not to be bound by anything. By contrast, (30b-d) are grammatical as the pronoun is free in its GC. Needless to say, the pronoun ‘her’ is governed by the preposition of in accordance with (29b). Here (29a) can be applied to the example (28a) where Mary is governed by book and both appear within their GC. In the examples below, only possessive DPs in \( a \) and \( b \) are GCs as they have subject:

(30) a. *I lost [\text{DP} Mary’s picture of her].

b. I lost [\text{DP} my picture of her].

c. I lost [\text{DP} a picture of her].

d. Sam thought I lost [\text{DP} a picture of her].

e. John saw [\text{DP} a picture of himself].

Having indicated that the GC can be a phrase or a clause, it is time to turn to a situation where the whole clause must be considered the GC. In a prenominal possessive, when the possessor is an anaphor rather than a pronoun, the GC cannot be the possessive DP. As pointed out in Haegeman (1994), when the Spec position is occupied by an anaphor, we must extend the GC to the whole clause to satisfy the Principle A of binding theory. As a result of this, in examples like (31a) the GC is the entire clause in which the anaphor is bound by the subject of the clause. In contrast, when the spec, DP in the possessive is filled with a pronoun, there is no need to extend the GC and the possessive DP itself remains as the GC as seen in (31b).

(31) a. The students like [\text{DP each other}'s teachers]. (the clause is GC)

b. The students like [\text{DP their} j teachers]. (the DP is GC)

Although this is more related to binding theory, it is discussed here because our central concentration is on government relation: the relation between governor and governee. Also, it is very difficult to elaborate a module of GB in detail without mentioning or discussing another module as they almost always overlap. Thus, in both cases of (31), the word teachers governs the anaphor ‘each other’ and the pronoun ‘their’, respectively.

4. Binding Relations and Possessives

The binding module of GB theory is totally related to prenominal possessives. According to this module, possessive phrases have to be observed within the whole sentence.

4.1 Anaphors and Pronominals

Central to binding theory is the phenomenon of c-command. On this basis, closeness and distance play a crucial role in determining the binding status of anaphors and
pronouns. An anaphor and its c-commanding antecedent must be clause-mates, i.e. they
must be close to each other and they must be arguments of the same predicate, whilst a
pronoun and its antecedent could be far from each other. It is worthwhile that a pronoun
can have a close antecedent, but it does not c-command it. Accordingly, an antecedent may be
co-indexed with an anaphor, may precede it, but the condition to guarantee binding is that it
must c-command it. On the contrary, a pronoun never has a c-commanding antecedent as it
is free in its GC (Büring, 2005; Cook & Newson, 2007). Let us consider the following
examples:

(32) a. *Mary’s father introduced herself.
    b. Mary’s father introduced her to me.
    c. Mary’s father introduced himself.

Example (32a) is ungrammatical because the co-indexed elements are not arguments
of the same predicate. In other words, the noun does not c-command the anaphor because it is
not the subject of the clause; it is the possessor within the subject of the entire clause.
Therefore, it cannot c-command the verb and any element under it since they are not sisters
(see the tree in 33a). Hence, the anaphor is not bound by any antecedent. As for (32b), the
sentence is grammatical but once again no binding is seen because the pronoun is always
free in its GC (see the tree in 33b). In (32c), the co-indexed elements are clause-mates, and
the antecedent c-commands the anaphor as they are sisters and the anaphor will be bound by
its c-commanding antecedent (see the tree in 33a).
Although Mary and her are co-indexed in (33b) and the sentence is grammatical, no binding relationship is established. The domain of the pronominal is not part of the GC, which is the possessive DP (cf. Chomsky, 1986).

4.2 R-Expressions

Being free everywhere and never be bound, r-expressions are different from both anaphors and pronominals. When a proper name appears in any kind of sentence, it is neither bound by nor co-indexed with any other element to its left (see Lightfoot & Fasold, 2006). In this way, Mary in the lower clause in (34) is necessarily different from the Mary in the higher clause.

(34) Mary’s mother said that the teacher helped Mary.

There can be a situation in which an r-expression is co-indexed with an element to its left, but not bound by it because none of them c-command the other (Cook & Newson, 2007).

(35) Her own mother praised Mary.

In the example above, Mary and her are co-indexed but there is no binding relationship as there is no c-command between the pronominal and the r-expression. The reason for the validity of co-indexation in (35) is the existence of own within the possessive phrase which indicates that the mother is only Mary’s, not someone else’s. Omitting own leads to having different interpretations; that her and Mary may refer to the same person or two different persons. In any case, Mary is not bound.

5. Conclusions

There is no clear-cut agreement as to whether the functional head in possessives moves to the Spec position or it is originally in that position. This validates the claim that the functional head can be POSS or a null category. It is also concluded that the two modules of government theory and binding theory are highly intertwined due to the structural relation of c-command as it is common to both of them. Moreover, possessive constructions greatly show obedience to the principles of binding theory.

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پوخته

با نظر به قدرت درک کردن سیستم‌های تمرکز، یکی از متغیرهایی است که باید فاکتور بیرونی هر记者从 جواب‌های درون‌رو مانند یا رابطه‌های کاربردی باشد. 

از طرفی، این نکته این است که در زمینه‌های مختلف، مهارت تمرکز به عنوان یکی از مهارت‌های مهم شناخته شده‌است. 

این بحث محافله‌ای لیستی از تمرکز ترکیب خاصی از موارد مهمی است که تمرکز و به‌اضافه مهارت‌های افتادهای و ارتباطی بین آنها، بیان و توضیح می‌گردد.

توجه: این مطالب با مراجعه به منابع علمی شهرت دارد.

ملخص

هذا البحث محاولة لمناقشة ثلاثة فروع من نظرية التأثير والربط اللتان تظهران بعد تغيير وحدة تحويل في مستوى العمق (الضمن) إلى مستوى السطحي عند تحويل مكون نحوي من خلال عملية الحركة. يظهر مكون جديد مغاير تماماً عن الأصل. ركزنا في البحث على مكون شبه جملة التملك و الذي يُناقش عليه في مرحلة ثانية: التأثير، وربط هذا مقرض على أربعة محاور: النقطة، نظرية الحركة، ارتباطات التأثير، وربط في الضمنا تحدثنا باياج عن التملك وانه، و البحث الثاني مخصص بالمناظرات المتعلقة بالحركة في شبه جملة التملك وناشتنا في البحث الثالث علاقات التأثير التي موجودة في التملك. البحث الأخير يظهر كيف استخدم أسس نظرية النسبة من خلال استعمالها على مكون المملكه. ونستخدمنا لبحث بعض أمور التأثير التي توصل إليها البحث، ثم المفصل بذاته، وهو المفصل بالفلكي الكوريكي والمزاحية، وثبت للمصدر والمراجع، احدي النتائج التي توصل إليها البحث يمكن

ملاحظه

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فی آن شبه جمله التملك بصورة كبيرة يخضع لأسس نظرية النسبة.