

1. Introduction

Much research in the past two decades (beginning with Abney's seminal 1987 study) has concluded that there are significant symmetries between the constituent structure of nominal and verbal projections. In work within the *Minimalist Program*, Chomsky (1995, 1998, 1999) has argued (extending earlier work by Larson 1988, 1990 and Hale and Keyser 1991, 1993, 1994) that verb phrases have a complex internal structure comprising an outer vP shell headed by an abstract light-verb (denoted by lower-case *v*) and an inner VP core headed by a lexical verb. There have been occasional suggestions in the literature that noun phrases have a similar shell structure, comprising an outer nP shell headed by a light noun and an inner NP core headed by a lexical noun (see e.g. Carstens 2000, who builds on earlier work by Sportiche 1990 and Valois 1991): the nP shell in turn serves as the complement of higher-level nominal projections (See Cinque 1994 and Longobardi 1994, 1996 for some discussion of nominal superstructure). In this paper, I propose a specific variant of the NP-shell analysis, focusing mainly on the syntax of argumental (i.e. argument-selecting) nouns in English.

2. Argument merger

If there is symmetry between the structure of noun phrases and verb phrases, we should expect to find a uniform set of UG principles determining how (in the unmarked case) specific types of argument are first-merged within split xP/XP projections. For present purposes, I shall assume a simplified argument projection hierarchy along the lines of (1) below:

- (1) [xP bare agent [XP experiencer > theme > oblique > agentive PP > clause]]

This is intended to indicate that a bare agent (like *John* in *John killed Fred*) is projected as an external argument in spec-xP, and that other arguments are projected as internal arguments within XP, with > indicating c-command; where a head has a single internal argument, this is projected as its complement; where a head has two internal arguments, the higher of these is projected as its specifier and the lower as its complement; where a head has three internal arguments, this requires the projection of a double XP structure with the highest argument serving as the specifier of the superordinate XP, the intermediate argument serving as the specifier of the subordinate XP, and the lowest argument as the complement of the subordinate XP. An agentive PP is a phrase like *by John* in *Fred was killed by John*; oblique arguments include PP arguments headed by a P other than genitive *of* or agentive *by*; a clausal argument is a non-nominal clause (i.e. one which is case-resistant in the sense of Stowell 1981). The relative ordering of arguments within the hierarchy (1) has correlates in other work: for example, the relatively 'low' position of agentive PPs correlates with their *chômeur* status in Relational Grammar (Perlmutter 1983); and the maximally low position of clausal arguments may be a consequence of the need to avoid the parsing problems posed by centre-embedded clauses (see e.g. Chomsky 1965, §1.2).

In order to establish that the hierarchy in (1) is not specific to nominal projections, I will briefly show how it applies to verbal projections. In relation to unaccusative sentences such as *He has arrived*, (1) determines that the THEME argument *he* is first-merged as the highest internal argument of V; since it is the sole argument of V, it follows (from the binarity of merger) that it will be projected as the complement of V (an assumption which receives empirical support from the analysis of Italian *ne* cliticisation in Burzio 1986). In simple transitives like *He ate it*, (1) specifies that THEME *it* is merged as the complement of V and that the bare AGENT *he* is merged as the specifier of v: the verb raises from V to adjoin to the null light-verb

heading vP to derive the structure shown in simplified form in (2) below at the end of the vP phase^[2]:

(2) [vP he [v ate] [VP [V t] it]]

In sentences like *He gave it to her*, AGENT *he* is merged in spec-vP by (1), THEME *it* as the highest internal argument (in spec-VP), and oblique GOAL *to her* as a lower internal argument in VP-complement position, so that after V-to-v raising we derive the structure (3) below at the end of the vP phase:

(3) [vP he [v gave] [VP it [V t] to her]]

In *He explained to her that there were complications*, AGENT *he* is merged in spec-vP, oblique *to her* in the highest internal argument position (spec-VP) and the *that*-clause in the lowest internal argument position (VP-complement position), so deriving (4) after V-to-v raising:

(4) [vP he [v explained] [VP to her [V t] that there were complications]]

In *He was criticised by her*, the prepositional AGENT *by her* originates in the lowest internal argument position (VP-complement position) and the THEME argument *he* in the highest internal argument position (spec-VP), subsequently raising to spec-TP by A-movement. By contrast, in *It was agreed by the committee PRO to delay the decision*, the complement clause *PRO to delay the decision* is merged as the lowest internal argument of V and therefore occupies VP-complement position and the *by*-phrase is merged in the highest internal argument position (spec-VP), so that the *by*-phrase precedes the infinitive complement and c-commands its PRO subject^[3].

3. Other key assumptions

In addition to assuming the Argument Projection Hierarchy in (1) above, I shall make the following assumptions about genitive case-marking in English:

- (5)(i) an EXPERIENCER or THEME argument of N can be assigned inherent genitive case (encoded by *of*^[4])
- (ii) a null ϕ -complete definite determiner assigns structural genitive case (encoded by the affix *'s* or by a genitive pronoun like *my*) to the closest nominal which it agrees with^[5].

There are several reasons for thinking that *of* genitives mark inherent case and *'s* genitives^[6] mark structural case. For one thing, it is characteristic of inherent case in English that it is encoded via a preposition^[7] (e.g. *to* encodes inherent dative case in structures like *He lent his car to Mary*), and characteristic of structural case that it is morphologically encoded (in the case of pronouns like *I/me/my*, via inflectional morphology; in the case of genitives like *John's*, via an *'s* affix which has much the same range of overt allomorphs^[8] as third person singular present tense *-s*). Moreover, (structural) *'s* genitives can encode a wide range of θ -roles, whereas (inherent) *of* genitives can generally encode only THEME/EXPERIENCER arguments: hence (e.g.) the former – but not the latter – can be assigned to an AGENT argument^[9], as we see from the contrast in (6) below:

(6)(a) *the government's* ban on tobacco advertising

- (b) *the ban *of the government* on tobacco advertising

In addition, a temporal expression like *last week* can be assigned structural but not inherent genitive case, as (7) below shows:

- (7)(a) *last week's* announcement that a new peace treaty had been signed
(b) *the announcement *of last week* that a new peace treaty had been signed

The ungrammaticality of (7b) can be accounted for in a straightforward fashion if we posit that *of* encodes inherent genitive case, and hence can only be assigned to (internal) arguments of N, not to adjuncts.

Moreover, (for some speakers, at least [10]) 's genitives can undergo *raising*, whereas *of* genitives cannot: cf.

- (8)(a) *the president's* certainty to be re-elected
(b) *the certainty *of the president* to be re-elected

A final argument in support of treating *of* genitives as inherently case-marked comes from contrasts such as:

- (9)(a) extensive **criticism** *over the past few weeks* **of President Mugabe** by leading Commonwealth politicians
(b) *I have come to **believe** *over the past few weeks* **President Mugabe** to be intransigent

As the ungrammaticality of (9b) shows, there is a case-adjacency requirement on structural case-marking in ECM structures to the effect that case-assigner and case-assignee must be immediately adjacent. However, no such adjacency effect is found in structures like (9a) [11].

In addition to the assumptions made in (1) and (5) above, I shall make the further assumption in (10) below:

- (10) The light-noun heading nP is always *strong* in English, so that nouns always raise from the head N position in NP to the head n position of nP

If V always raises to v (as argued in Radford 1997), it may be that there is a greater generalisation here, to the effect that a null light head always triggers head-raising.

Having outlined the three key assumptions (1/5/10) made here, I now turn to look at how a range of nominals are derived within the framework outlined above.

4. Unaccusative nominals

Consider first of all unaccusative nominals such as:

- (11)(a) the return of the president from Cincinnati
(b) the president's return from Cincinnati

By (1), the THEME argument *the president* is projected higher than the oblique (SOURCE) argument *from Cincinnati*. If the THEME argument is assigned inherent genitive case by (1), we will have the structure (12) below at the end of the NP cycle:

- (12) [NP of the president [N return] from Cincinnati]

On the next cycle, the NP in (12) is merged with a strong null light-noun, triggering raising of the noun *return* from N to n, and so deriving:

(13) [nP [n *return*] [NP of the president [N *t*] from Cincinnati]]

Subsequent merger of the nP in (10) with the determiner *the* forms the DP:

(14) [DP [D *the*] [nP [n *return*] [NP of the president [N *t*] from Cincinnati]]]

If attributive adjectives are contained in some projection intermediate between D and nP, an attributive adjective like *unexpected* can be positioned between *the* and *return*, so giving rise to structures such as *the unexpected return of the president from Cincinnati* [\[12\]](#).

In the case of (8b) *the president's return from Cincinnati*, (1) will once again determine that the THEME argument *the president* is projected higher than the oblique (SOURCE) argument *from Cincinnati*. This time, however, we assume that *the president* does not receive (optional) inherent case, so that at the end of the NP cycle we have the structure (12) below:

(15) [NP the president [N *return*] from Cincinnati]

On the next cycle, the NP in (15) is merged with a strong light noun which triggers raising of the noun *return* from N to n, so deriving the nP (16) below:

(16) [nP [n *return*] [NP the president [N *t*] from Cincinnati]]

On the final cycle, the nP in (16) is merged with a null ϕ -complete determiner, so forming the DP (17) below:

(17) [DP [D \emptyset] [nP [n *return*] [NP the president [N *t*] from Cincinnati]]]

This null determiner agrees with (and assigns structural genitive case to) the DP *the president*; the null determiner also carries an EPP-feature which triggers raising of *the president* to spec-DP, so deriving:

(18) [DP **the president's** [D \emptyset] [nP [n *return*] [NP **t** [N *t*] from Cincinnati]]]

If attributive adjectives are contained within a projection intermediate between D and nP, we correctly predict that the moved genitive DP *the president* can 'cross' intervening attributive adjectives, so giving rise to structures such as *the president's unexpected return from Cincinnati*.

5. Experiential nominals

Now consider how we derive experiential nominals such as:

- (19)(a) the unwillingness of the chairman to admit responsibility
(b) the chairman's unwillingness to admit responsibility

By (1), the EXPERIENCER argument *the chairman* will originate in spec-NP and the clausal argument *to PRO admit responsibility* in NP-complement position. If the EXPERIENCER argument *the chairman* is

assigned inherent genitive case by (5i), we will have the structure (20) at the end of the NP cycle:

(20) [NP of the chairman [N unwillingness] to admit responsibility]

Merger of the NP in (20) with a strong light-noun will trigger raising of the noun *unwillingness* from N to n, thereby forming:

(21) [nP [n *unwillingness*] [NP of the chairman [N *t*] to admit responsibility]]

Subsequent merger of (21) with the determiner *the* will derive the DP (19a) *the unwillingness of the chairman to admit responsibility*. In the case of (19b), the noun *unwillingness* is again merged with its complement *to admit responsibility* and with its specifier *the chairman*, but this time *the chairman* is not assigned (optional) inherent genitive case by (5i), so that at the end of the NP cycle we have:

(22) [NP the chairman [N unwillingness] to admit responsibility]

Merger of the NP in (22) with a strong light-noun will trigger raising of the noun *unwillingness* from N to n, thereby forming:

(23) [nP [n *unwillingness*] [NP the chairman [N *t*] to admit responsibility]]

The resulting nP will in turn be merged with a null determiner, deriving [\[13\]](#):

(24) [DP [D \emptyset] [nP [n *unwillingness*] [NP the chairman [N *t*] to admit resp]]]

Since the null determiner is (by hypothesis) ϕ -complete, it will agree with (and assign structural genitive case to) the DP *the chairman*. Since the determiner also has an EPP-feature, it triggers movement of the genitive DP *the chairman's* to spec-DP, so deriving (25) below:

(25) [DP **the chair's** [D \emptyset] [nP [n *unwillingness*] [NP **t** [N *t*] to admit resp]]]

As would be expected (given our earlier assumptions), the bold-printed genitive DP can move across an intervening attributive adjective, resulting in structures like *the chairman's apparent unwillingness to admit responsibility*.

6. Agentive nominals

Now consider how we derive agentive *by*-phrase nominals such as:

- (26)(a) the destruction of the city by the enemy
(b) the city's destruction by the enemy

By (1), the THEME argument *the city* is projected as the higher (specifier) argument of N and the agentive PP *by the enemy* as its lower (complement) argument; by (5i) *the city* can be assigned inherent genitive case and realised as *of the city*. If so, at the end of the NP-cycle, we will have the following structure:

(27) [NP of the city [N destruction] by the enemy]

Merger of the light-noun *n* with the NP in (27) will yield the structure (28) below after N raises to n:

(28) [nP [n *destruction*] [NP of the city [N *t*] by the enemy]]

Merger of the resulting structure with the overt definite determiner *the* ultimately derives (26a) *the destruction of the city by the enemy*.

If the *of*-phrase is *heavy*, it can be extraposed, as in (29) below:

(29) the destruction by the enemy *of the city and the surrounding villages*

The word-order in (29) is marked (in the sense that the canonical word-order illustrated in (26a) is for the *of*-phrase to precede the *by*-phrase), with the italicised *of*-phrase showing a characteristic heaviness effect. One possibility is that structures like (29) may be the result of a movement operation traditionally termed *extraposition*: if there is parallelism between the syntax of nominal and verbal structures and if (as Chomsky 1999, p.18 suggests) extraposition in the verbal domain involves adjunction to vP, it seems likely that extraposed nominal arguments are adjoined to nP. However (as Bob Borsley point out), an extraposition analysis would violate Kayne's (1994) *Linear Correspondence Axiom/LCA* by virtue of involving rightward movement. An alternative *in situ* analysis which would not involve movement and hence not violate LCA would be to suppose that heavy constituents occupy the rightmost position on the hierarchy (1) and are merged *in situ* without undergoing movement^[14].

Now consider the derivation of (26b) *the city's destruction by the enemy*. At the end of the NP-cycle, we have the structure (30) below (with the THEME argument *the city* not having been assigned optional inherent genitive case):

(30) [NP the city [N *destruction*] by the enemy]]

Merger of n with the resulting NP and N-to-n raising derives:

(31) [nP [n *destruction*] [NP the city [N *t*] by the enemy]]

Merger of a null ϕ -complete definite determiner with this nP in turn derives:

(32) [DP [D \emptyset] [nP [n *destruction*] [NP the city [N *t*] by the enemy]]]

The head D of DP c-commands (and agrees with) *the city*, and values its case-feature as *genitive* (with structural genitive case being spelled out as the suffix *'s* on *the city's*); D carries an EPP feature which triggers movement of *the city's* from spec-NP to spec-DP, so deriving:

(33) [DP **the city's** [D \emptyset] [nP [n *destruction*] [NP **t** [N *t*] by the enemy]]]

A genitive expression moving to spec-DP can cross an intervening nP-modifying adjective, e.g. like *recent* in a structure such as *the city's recent destruction by the enemy*.

If a referential DP is always a strong phase and nP is a strong phase only when it has an external argument, such a derivation will not lead to violation of Chomsky's (1999, pp. 10-11) *Phase Impenetrability Condition* which specifies that:

(34) Only the head H and edge α of a strong phase HP (not its domain YP) are accessible to the head Z of an immediately superordinate strong phase ZP in structures of the schematic form [ZP Z... [HP α [H YP]]

This is because nP (by virtue of lacking an external argument in spec-nP) is not a strong phase in (32), and so does not block agreement between D and *the city*.

Although movement of the noun *destruction* from N to n is not directly visible in (33), some evidence that N-to-n movement does indeed take place is provided by nominals like (35) below:

(35) the city's destruction *last week* by the enemy

If we assume that expressions like *last week* can serve as 'adverbial' NP-modifiers (first-merged on the edge of NP), a nominal like (35) will have the structure (36) below:

(36) [DP **the city's** [D \emptyset] [nP [n *destr*] [NP last week t [N t] by the enemy]]]

and movement of the noun *destruction* from N to n thereby becomes directly visible.

7. Transitive nominals

Now consider the derivation of 'transitive' nominals like (37) below:

(37) the enemy's destruction of the city

Here, the THEME argument *the city* is merged as the complement of N by (1) and assigned inherent genitive case by (5i); the external argument *the enemy* is merged as the specifier of the light noun *n* by (1), so that at the end of the nP cycle (after N-to-n raising), we have the structure:

(38) [nP the enemy [n *destruction*] [NP [N t] of the city]]

Merger of a null ϕ -complete definite determiner with the resulting nP yields:

(39) [DP [D \emptyset] [nP the enemy [n *destruction*] [NP [N t] of the city]]]

The null ϕ -complete head D of DP agrees with and assigns structural genitive case to *the enemy*; the EPP-feature of D drives movement of *the enemy's* to spec-DP, so deriving:

(40) [DP **the enemy's** [D \emptyset] [nP t [n *destruction*] [NP [N t] of the city]]]

As before, the moved genitive DP *the enemy's* can cross intervening nP-modifying adjectives like *recent* in structures such as *the enemy's recent destruction of the city*. Agreement between D and *the enemy* in (39) is not blocked by the *Phase Impenetrability Condition* (34) since the *enemy* is at the edge of nP and therefore accessible to D.

Next, consider a more complex (3-argument) transitive structure such as:

(41) the withdrawal of troupes from the occupied territories by the Israelis

By (1), the THEME argument *troupes* is merged as the highest argument of N (and assigned inherent genitive case by (5i)) and *by the Israelis* is merged as the lowest argument of N; the oblique argument *from the occupied territories* is an intermediate argument of N. Since merger is a binary operation, a double-NP

structure has to be projected to accommodate the three arguments. At the end of the inner NP cycle, we will have the following structure:

(42) [NP from the occupied territories [N withdrawal] by the Israelis]

At the end of the outer NP cycle, we derive the following structure (after N-to-N raising [\[15\]](#)):

(43) [NP of troupes [N *withdrawal*] [NP from the occup territories [N *t*] by the Israelis]]

Merger of *n* with the resulting NP (and N-to-n raising) yields:

(44) [nP [N *withdrawal*] [NP of troupes [N *t*] [NP from the occ terr [N *t*] by the Israelis]]]

Merger of the determiner *the* with the structure in (44) yields (41) *the withdrawal of troupes from the occupied territories by the Israelis*.

Now compare the derivation of (41) with that of (45) below:

(45) the Israelis' withdrawal of troupes from the occupied territories

Here, *of troupes* and *from the occupied territories* are the two internal arguments of *withdrawal*, so that at the end of the NP-cycle we have the structure (46) below:

(46) [NP of troupes [N withdrawal] from the occupied territories]

The DP *the Israelis* is the external argument of the light noun heading nP, so that at the end of the nP cycle (after N-to-n raising) we have the structure (47) below:

(47) [nP the Israelis [n *withdrawal*] [NP of troupes [N *t*] from the occ territories]]

Subsequent merger of the nP in (47) with a null determiner, and movement of *the Israelis* from spec-nP to spec-DP will derive:

(48) [DP **the Israelis'** [D \emptyset] [nP **t** [n *withdrawal*] [NP of troupes [N *t*] from the occ terr]]]

The analysis in (48) correctly predicts that the genitive DP *the Israelis'* can cross an nP-modifier like *recent* in *the Israelis' recent withdrawal of troupes from the occupied territories*.

8. Nominals with clausal complements

Now consider nominals with clausal complements such as:

- (49)(a) the jury's decision to acquit the defendant
(b) the decision by the jury to acquit the defendant

In (49a), the clausal argument *to acquit the defendant* is the only internal argument of *decision*, and so is merged as its complement; the external AGENT argument *the jury* is merged in spec-nP, so that at the end of the nP cycle we have the following structure (assuming N-to-n raising):

(50) [nP the jury [n *decision*] [NP [N *t*] PRO to acquit the defendant]]

PRO is c-commanded by its controller *the jury* in spec-nP. Subsequent merger of (50) with a null D with abstract agreement properties, assignment of structural genitive case to *the jury* and movement of *the jury* to spec-DP will derive (49a) *the jury's decision to acquit the defendant*.

However, the derivation of (49b) is somewhat different. Here, there are two internal arguments; by (1) the clausal argument must be the lower argument (and hence the complement of N) and the agentive *by*-phrase the higher argument (and hence the specifier of N), so that at the end of the NP cycle we have:

(51) [NP by the jury [N *decision*] PRO to acquit the defendant]

As required, PRO is c-commanded by its controller, namely the agentive argument *by the jury*. On the nP-cycle, N will raise to n, deriving:

(52) [nP [n *decision*] [NP by the jury [N *t*] PRO to acquit the defendant]]

On the DP cycle, the resulting nP will be merged with *the* to derive the DP (49b) *the decision by the jury to acquit the defendant*.

9. Temporal genitives

An interesting variant of (49b) are structures like the following (noted by Fukui 1986) which contain a temporal genitive like *yesterday's*:

(53) *yesterday's decision by the jury to acquit the defendant*

One analysis of temporal genitives (which we adopted earlier in (36) above) is to suppose that they are NP-modifiers which are first-merged on the edge of NP, so that at the point where D is merged with nP we have the following structure [\[16\]](#):

(54) [DP [[D \emptyset] [nP [[n *decision*] [NP *yest* [by the jury [[N *t*] PRO to acquit the def]]]]]]]]

D will then agree with (and assign structural genitive case to) *yesterday*, and the EPP-feature of D will drive movement of *yesterday's* to spec-DP, deriving the following structure:

(55) [DP ***yesterday's*** [[D \emptyset] [nP [[n *decision*] [NP *t* [by the jury [[N *t*] PRO to acquit the def]]]]]]]]

Since nP has no external argument, it is not a strong phase and so will not block assignment of structural genitive case to *yesterday* by D [\[17\]](#).

10. Prenominal arguments

Now let's turn to consider the syntax of the italicised prenominal expressions in structures such as the following:

(56)(a) *the government decision* PRO to ban French beef

- (b) the *French* decision PRO to ban British beef

The italicised expressions seem to occupy spec-nP in that they precede the noun *decision* (which, via N-to-n raising, comes to occupy the head n position of nP), serve as controllers for PRO and occur after nP-modifying adjectives like *recent*, as the examples below illustrate:

- (57)(a) the *recent* **government** decision PRO to ban French beef
 (b) *the **government** *recent* decision PRO to ban French beef

- (58)(a) the *recent* **French** decision PRO to ban British beef
 (b) *the **French** *recent* decision PRO to ban British beef

Since the status of *French* as an adjective in (56b) seems relatively clear, it could be that *government* in (56a) serves a similar (quasi-adjectival) function: indeed, it might be claimed that *French* serves as an argumental adjective in (56b), fulfilling the role of the external argument of *decision*. Alternatively, it may be that *government* is an N rather than a DP in (56a), and is projected into spec-nP by virtue of being the external argument of *decision*, escaping the *case filter* and consequent raising to spec-DP by virtue of having the categorial status of N rather than DP. (See Radford 1993, p.79 for a suggestion along these lines.)

One of the many puzzles surrounding structures like (56) concerns how we account for contrasts such as the following

- (59)(a) the defeat of the government by the opposition
 (b) the opposition defeat of the government
- (60)(a) the opposition's defeat of the government
 (b) *the government's opposition defeat

(59a) seems to have essentially the same derivation as (26a), *the destruction of the city by the enemy*, and (60a) as (37) *the enemy's destruction of the city*. In (59b), *the government* is merged as the complement of *defeat* by (1) and assigned inherent genitive case by (5i). On the nP cycle, N raises to n and the external argument *opposition* is merged in spec-nP. The resulting nP is then merged with the determiner *the* to derive:

- (61) [DP [D the] [nP opposition [n *defeat*] [NP [N *t*] of the government]]]

But now consider why (60b) is ungrammatical. The derivation of (60b) will proceed essentially as for (60a) up to the stage represented in (61), except that the overall DP will be headed by a null ϕ -complete D, and *the government* will not be assigned inherent case and so will still be active by virtue of having an unvalued case-feature. At relevant stage of derivation, we thus have:

- (62) [DP [D \emptyset] [nP opposition [n *defeat*] [NP [N *t*] the government]]]

We might therefore expect that the null determiner occupying the head D position of DP can agree with (and assign structural genitive case to) *the government*, and that the EPP feature of D will drive movement to spec-DP, so deriving:

(63) [DP **the government's** [D \emptyset] [nP *opposition* [n *defeat*] [NP [N *t*] **t**]]]

However, the resulting structure is ungrammatical. Why should this be? The answer is that the derivation will violate the *Phase Impenetrability Condition/PIC* (34) if a referential DP is always a strong phase, if nP is a strong phase when it has an external argument, and if *opposition* is the external argument of nP: this is because PIC will block agreement between D and *the government* across the intervening strong phase nP [18]. Phase impenetrability means that the case feature of the DP *the opposition* cannot be LF-erased and PF-valued (nor indeed can the EPP-feature of D be erased), causing the derivation to crash at both LF and PF. By contrast, the corresponding agentive nominal (64) below is grammatical:

(64) the government's defeat by the opposition

and this has a derivation parallel to that of (26b) *the city's destruction by the enemy*.

11. Possessive nominals

Although my main concern in this paper is with the syntax of argumental nominals in English, I will briefly look at the syntax of possessive nominals [19] such as:

- (65)(a) Mary's new hat
(b) *the new hat of Mary

Since nouns denoting concrete objects like *hat* are non-argumental, it is clear that *Mary* does not function as an argument of the noun *hat*. Rather, it seems more likely that *Mary* originates as the specifier of an abstract possessive morpheme POSS which assigns the role of POSSESSOR to its specifier (*Mary*) and POSSESSUM to its complement (*new hat*). If (as Cinque 1994 argues) attributive adjectives are specifiers of a superordinate functional projection FP [20], (65) will have the simplified structure (66) below at the point where D is first-merged with its POSSP complement:

(66) [DP [D \emptyset] [POSSP *Mary* [POSS \emptyset] [FP *new hat*]]]

Since *Mary* is not an argument of *hat*, *Mary* cannot be assigned inherent genitive case (marked by *of*) under (5i) – hence the ungrammaticality of (65b) **the new hat of Mary*. Instead, the null ϕ -complete D heading DP agrees with the nearest nominal which it c-commands (namely, the POSSESSOR *Mary*) and assigns it genitive case (so that the POSSESSOR surfaces as *Mary's*); the EPP-feature of D forces movement of *Mary's* to spec-DP, so deriving:

(67) [DP *Mary's* [D \emptyset] [POSSP *t* [POSS \emptyset] [FP *new hat*]]]

And (67) is the structure associated with (65a) *Mary's new hat*.

12. Conclusion

The overall conclusion argued for here is that there is a significant parallelism between the structure of (argumental) nominal and verbal projections, and that both may comprise an inner *XP* core with a lexical head *X* contained within an outer *xP* shell with a light head *x*. The parallelism also extends to their superstructure in that both are in turn contained within a superordinate strong phase (CP for complete clauses, DP for complete nominals), and if both vP and nP are only strong phases if they project an

13. References

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[1] I am grateful to Bob Borsley, Claudia Felser and Mike Jones for comments on an earlier draft of this paper. This version appeared in *Essex Research Reports in Linguistics* (November 2000), vol. 33, pp 2-20.

[2] To simplify exposition, labelled bracketings show only heads and maximal projections, not intermediate projections: null light verbs and light nouns are omitted; traces and their antecedents are printed in the same bold type-face (italic or bold). I am not concerned with the syntax of superordinate (e.g. TP and CP) projections here, or with whether transitive objects move to a higher position.

[3] This will also be the case if PRO remains in situ within VP, as suggested in Bowers 1993 and Boskovic 1997.

[4] This should not be taken to imply that the sole function of the word *of* is to mark inherent genitive case. Arguably *of* has a different predicative function in *of*-phrases such as those italicised in 'a man *of great distinction*' and 'a portrait *of John's*'. (See Kayne 1994, de Wit 1995 and Carstens 2000 on the latter.) The force of *or* in (5i) is that when a noun has both an EXPERIENCER and a THEME argument, only *one* of these two arguments can be assigned inherent genitive case (marked by *of*). The grammaticality (i) *a mother's love of her children* and (ii) *the love of a mother for her children* and the ungrammaticality of **the love of a mother of her children* suggests that when a noun (like *love*) has both an EXPERIENCER and a

THEME argument, only one of the arguments can be inherently case-marked by genitive *of*. This presumably follows from a *case uniqueness* requirement of some kind, requiring each argument of a given head to be assigned a unique case.

[5] The assumption that the relevant determiner is *definite* accounts for the fact that genitives like *John's car* are interpreted as meaning 'the car belonging to John' rather than 'a car belonging to John'. If Lobeck (1990) and Murusagi and Saito (1994) are correct in their observation that only a ϕ -complete functional head allows ellipsis of its complement, the fact that 's possessives allow complement ellipsis (in structures such as 'John's car is red, and Mary's is yellow') suggests that the relevant determiner is ϕ -complete. For concreteness, the genitive 's affix is here taken to a marker of the genitive case carried by the nominal to which it is affixed, rather than (as in Chomsky 1995, p.263) the head D of DP – though this does not affect the analysis offered here in any significant way. Not taken into account here is the so-called *adjectival* use of 's discussed in Zribi-Hertz (1997).

[6] Throughout, the term 's genitives should be taken to include pronominal genitives like *my*. These are arguably the only 'true' genitives found in English, for the reasons given in the following footnote.

[7] It is far from clear that it makes sense to say that (e.g.) inherent dative/genitive case is encoded via the preposition *to/of*, for the obvious reason that the complement of *to/of* surfaces with accusative (not dative/genitive) case. What seems to be meant by saying that a preposition encodes inherent dative/genitive case is that a given head *indirectly* θ -marks a given argument via the use of the transitive preposition *to/of*. From this perspective, it is misleading to talk of prepositions like *to/of* as encoding dative/genitive case. However, since this traditional terminology is so deeply embedded in the relevant literature on case-assignment, I shall continue to make use of it here.

[8] As is well known, the two differ in that possessive 's has a null allomorph e.g. in *the soldiers' behaviour*.

[9] Bob Borsley points out to me that questions arise about structures in which a possible AGENT surfaces as an *of*-phrase, e.g. in nominals such as *the shooting of the hunters* (where *the hunters* has a subject interpretation). However, as Mike Jones observes, such nominals have a *manner* interpretation rather than an *event* interpretation – hence we say *The shooting of the hunters was accurate* (with *hunters* interpreted as a subject) though not (on the same subject interpretation) **The shooting of the hunters took place yesterday*. Also unaccounted for within the present framework are contrasts like **The decision of the Faculty Board about the withdrawal of the degree scheme* vs. *The decision of the Faculty Board to withdraw the degree scheme*.

[10] Not all speakers accept (5a), it seems. However, for speakers like me who do, there is a strong contrast between (5a) and (5b). Note also the ungrammaticality of **her belief of him to be innocent*, showing that an infinitive subject cannot be realised as an *of* genitive: this follows if *of* marks inherent genitive case, since *him* is not an argument of *belief*.

[11] An additional argument in support of the analysis in (2) can be formulated in relation to structures such as *Mary's fear of spiders*. If (contrary to what is suggested here) both 's and *of* genitives involved structural case assignment, 's genitives might be case-marked by a null ϕ -complete D, and *of* genitives by a null ϕ -complete light-noun. But on the nP cycle where we have the structure [nP [n \emptyset] [NP Mary [N fear] spiders]], the light-noun [n \emptyset] would agree with and assign (*of*) genitive case to the nearest nominal (*Mary*) which it c-commands. This not only wrongly predicts that *Mary* will surface as *of Mary* but also provides no means of case-marking *spiders*. By contrast, under the analysis in (2) in the main text, *spiders* is assigned inherent genitive case (so surfacing as *of spiders*), and *Mary* is assigned structural genitive case (surfacing as *Mary's* and moving to spec-DP) on the DP cycle, via agreement with a null ϕ -complete D with an EPP feature.

[12] As Bob Borsley points out, some potential empirical evidence in support of the analysis in (14) might come from co-ordinate structures such as *The return of the President from Cincinnati and of the First Lady from Cleveland*.

[13] Where lack of space makes this expedient, I abbreviate words in structural representations.

[14] It may be that binding data from marked-order structures like *my presentation to Mary of herself??my presentation to herself of Mary* favour the in situ analysis, since the *to*-phrase would c-command the *of*-phrase on the in-situ analysis though not on the extraposition analysis. However, the relevant binding data are somewhat murky.

[15] The noun *withdrawal* here raises from the subordinate to the superordinate N position in order to θ -mark *troups*, under the assumption that θ -marking involves a local relation between a head and its complement or specifier.

[16] In (31/32), intermediate projections are shown (in unlabelled form) as well as heads and maximal projections. The fact that we can say both (i) *the decision yesterday by the jury to acquit the defendant* and (ii) *the decision by the jury yesterday to acquit the defendant* might suggest that a temporal expression like *yesterday* can be first-merged either immediately above or immediately below the argument in spec-NP (hence immediately before or after the agentive argument *by the jury*). See also the following note.

[17] As Bob Borsley points out, the analysis of temporal modifiers like *yesterday* presented here would predict that temporal expressions are canonically positioned after head nouns. However, the word order in *the return yesterday of the president from Cincinnati* seems to me to be more marked than that in *the return of the president yesterday from Cincinnati*. It may be that *yesterday* is a temporal argument of the noun *return* and that the preferred position for temporal arguments is intermediate between THEME and OBLIQUE arguments on the hierarchy (1).

[18] An alternative answer might be in terms of the *minimal link* requirement which in effect requires D to agree with the closest nominal which it c-commands: if (contrary to the assumption made earlier) *opposition* is a ϕ -complete DP with an unvalued case feature, D will agree with (and assign structural genitive case to) *opposition* rather than *the government* by virtue of being closer to the former than the latter. However, if *opposition* is a ϕ -complete DP, we should expect it to be modified by *the*, so deriving *the opposition's defeat of the government*. The fact that the noun *opposition* seems to resist structural case-marking (cf. **the recent opposition's defeat of the government*) and is bare (i.e. lacks the determiner *the*) might support the suggestion made in the main text that it is a caseless N in structures like *the recent opposition defeat of the government*.

[19] I am concerned here only with what Zribi-Hertz (1997) terms *transitive* possessive structures.

[20] It is clear that *new* cannot be the specifier of *hat* within a binary-branching framework, and hence that *new* must be the specifier of a superordinate functional projection FP.