

Some notes on “meaningless movement”¹

Guglielmo Cinque, Università di Venezia (cinque@unive.it)

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A long tradition takes word order differences within one and the same language and across languages to be a consequence of movement.

This tradition has treated together movements which may have interpretive effects at both PF (word order change) and LF (meaning change), and movements which have effects at PF (word order change) but no clear interpretive effects at LF.

Among the former is A-movement in passives or raising ((1)), and A-bar movement in wh- or focus-fronting ((2)), which appear to have effects on both PF and LF:

(1)a. At least two languages_i are known t_i by everyone in the room (Chomsky 1965,224 note 9)

2 lgs > everyone (preferred over *everyone > 2 lgs*)

b. Some senator_i is likely t_i to speak at every rally (Chomsky 1981,177)

some senator > likely in addition to *likely > some senator*

(2)a. Who_i have you seen t_i ?

b. Quésto_i ho detto t_i !

This (focus) I have said!

Among the latter is head-(or XP)-movement within one and the same language, say, Italian (cf. (3)), and across languages (cf. (4)-(5)). These have an effect on PF, but apparently not in LF:

(3)a. Gianni non è mica **stato** invitato

b. Gianni non è **stato**_i mica t_i invitato

Gianni not is been at all invited [Gianni was not invited (contrary to what one could think)]

(4)a. Nowadays, John often **kisses** Mary (no movement to T – English) (cf. Pollock 1989)

b. Ces jours-là, Jean **embrasse** souvent Marie (movement to T – French) (cf. Pollock 1989)

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nowadays J. kisses often M.

c. Numera **kysser** Jonas ofta Maria (movement to C - Swedish) (Platzack 2013, 35)

Nowadays, kisses J. often M.

(5)a. Il a tout_i compris t_i (cf. Kayne 1975, §1.6) (French)

b. Ha compreso_k tutto_i t_k t_i (cf. Belletti 1990, 77f) (Italian)

‘He understood everything’

More acute even is the case of the XP-movements that have recently been taken to derive the different head-initial and head-final word orders of languages (Kayne 1994, Koopman and Szabolcsi 2000, Biberauer, Holmberg and Roberts 2014, Sheehan, Biberauer, Holmberg and Roberts 2017, Cinque 2009, 2017).

More recently Chomsky (1995, 2000, 2013) has made the not implausible suggestion that, given the architecture of UG, internal Merge in narrow syntax should have interpretive effects at both interfaces (LF and PF).

Any putative movement (like those in (3) to (5)) that has an effect only on the PF side, and no effect on the LF side (pace McCloskey 1996:89; Kayne 2000, fn3; Lechner 2006, 2007; Szabolcsi 2010; Roberts 2010; Hartman 2011; Iatridou and Zeijlstra 2013; Zeller 2013; Bhatt and Keine 2015; Matyiku 2016, 2017, §1.2; which argue that head/XP movement may have some effect on LF) should be expunged from narrow syntax, and confined to the PF interface (externalization).

The same would apply to putative movements that have an effect only on the LF side, but have no effect on the PF side, like the traditional LF movements of quantifiers, like that in (6):

(6) I will force you to marry no one (force > no one & no one > force) (Klima 1964, 285)

They too should be expunged from narrow syntax, unless they can be shown to have a component that affects the PF side. One possibility would be to assume that they involve the pronunciation of the lower, rather than higher, copy of a movement chain (Bobaljik 2002, Bošković 2002); but I take that to be excluded by the condition in (7), which subsumes “lowering/proper binding” violations (Kayne 1994, 96f):

(7) A given chain link c_k can license PF deletion of another link c_i of the same chain only if c_i does not c-command c_k (Kayne 1994, 96)

Another possibility is proposed in Kayne (1998) who argued that analyses based on LF (covert) movement should be analysed as involving overt movement. Thus the ambiguity of a sentence like *I will force you to marry no one* would involve two distinct overt derivations corresponding to the narrow- and the wide-scope readings respectively.

The derivation of the narrow-scope reading involves moving *no one* overtly to the Spec,NegP of the infinitival sentence, and then moving the VP [to marry t] to the left of that.²

(8)a. (I will force you) to marry no one → (by neg phrase preposing)

b. (I will force you) [_{NegP} no one_i [to marry t_i]] → (by VP-preposing (in head-initial lgs))

c. (I will force you) [[to marry t_i]_j [_{NegP} no one_i] t_j]

The derivation of the wide-scope reading involves moving *no one* overtly to the Spec,NegP of the matrix sentence, and then moving the VP [force you to marry t] to the left of that.

(9)a. (I will) force you [to marry no one] → (by neg phrase preposing)

b. (I will) [_{NegP} no one_i [force you [to marry t_i]]] → (by VP-preposing (in head-initial lgs))

c. (I will) [[force you to marry t_i]_k [_{NegP} no one_i] t_k]

These derivations dispense with the necessity of duplicating internal Merge at the LF interface. Movement takes place in narrow syntax with effects at both LF and PF, even if the result gives the impression that nothing happened at PF owing to a residue of meaningless movement (the VP-preposing part), which is arguably related to the head-initial character of the language (cf. Kayne 1998,169 and passim, and Haider 2000,46). This can be seen by comparing the derivations of the two readings of *I will force you to marry no one* with those of an analogous ambiguous sentence in a head-final construction like (10), in German.³ One should assume the presence of the same two neg phrase preposing, not followed by VP-preposing of the head-initial type (*whose-picture* pied

² Here I follow the traditional V O order although I assume merger of both complements and modifiers/adjuncts to be in Spec (in a Spec-Head-Complement structure, except for the lexical projections, VP,NP,etc., which have no “complements”). This is arguably forced by the fact that more ordering possibilities are found to the right of a lexical projection than to its left (only 1) [see pp.6-8, below], which can be made sense if we take the lexical projection to move in more ways than one above its complements/modifiers merged in hierarchically ordered Specifiers.

³ As Josef Bayer tells me, in an experiment reported in Bayer, Schmid and Bader (2005) the wide scope reading of *niemanden* in sentences like (12) was found to be possible, in fact preferred by speakers, even if *zwingen* is not a restructuring verb. The continuation ... *und deine Mutter auch nicht* forces matrix clause negation.

piping) but of the head-final one (*pictures-of whom* pied piping) (cf. Cinque 2017), as illustrated in (11) and (12):

(10) Ich werde dich niemand zu heiraten zwingen (... und deine Mutter auch nicht)

I will you nobody to marry force (... and your mother also not)

‘I will force you to marry no one (... and neither will your mother)’

(11)a. (Ich werde dich) [niemand zu heiraten] zwingen → (by neg phrase preposing)

b. (Ich werde dich) [_{NegP} niemand_i [t_i zu heiraten]] zwingen → (by VPpreposing (in head-final lgs))

c. (Ich werde) [[dich [_{NegP} niemand_i t_i zu heiraten] zwingen]_k t_k]

(12)a. (Ich werde dich) [niemand zu heiraten] zwingen → (by neg phrase preposing)

b. (Ich werde dich) [_{NegP} niemand_i [t_i zu heiraten] zwingen] ((by VP preposing (in head-final lgs))

c. (Ich werde) [[dich [_{NegP} niemand_i] [t_i zu heiraten] zwingen]_k t_k]

Note that in (11)c *zu heiraten* still forms a constituent with *niemand*, while it doesn't in (12)c. In fact their extraposed variants disambiguate (10) (cf. Bayer 1996,246). See (13):

(13)a. Ich werde dich zwingen [niemand zu heiraten] (only narrow scope)

b. Ich werde dich niemand zwingen [zu heiraten] (only wide scope)

I will return to this residue and to possible further evidence that some meaningless movement should be countenanced.

Chomsky's current position of Merge as yielding unordered sets which are linearized only at PF was actually discussed in Chomsky (1965:123-126) given proposals in Curry (1961) and Šaumjan and Soboleva (1963) (cf. Hall [Partee] 1964 and Šaumjan 1965) that rewriting rules should yield unordered sets (as in (14)) rather than ordered strings assumed by Chomsky (as in (15)), but he dismissed it at the time as “[n]o proponents of a set-system has given any indication of how the abstract underlying unordered structures are converted into actual strings with surface structures.” (p.125).⁴

⁴ As Hall [Partee] (1964) put it: “Saumjan's theory seems to rest in part on the assumption that word order is independent of syntactic structure in all languages” (p.407). Later proponents of an unordered underlying structure include Staal (1967,Chap.1), Sanders (1970,1975) and Hudson (1972), Bartsch and Vennemann (1972,38f).

(14)a. $S \rightarrow \{NP, VP\} = \{VP, NP\}$

b. $VP \rightarrow \{V, NP\} = \{NP, V\}$

(15)a. $S \rightarrow NP \frown VP$

b. $VP \rightarrow V \frown VP$

Things are now different as there is one detailed indication of how one could convert unordered hierarchical structures into actual strings, Kayne's (1994) Linear Correspondence Axiom (LCA). In fact this was Chomsky's position in Chomsky (1995). On p.340 he says: "We take the LCA to be a principle of the phonological component", which however implied that some meaningless movement in narrow syntax had to be assumed "to yield the proper hierarchies" (Chomsky 2004:110 and note 27), for the derivation of word order differences within one language and across languages. The desire to avoid meaningless movements in narrow syntax is probably at the basis of Chomsky's more recent abandonment of this position in favor of a non explicit externalization mechanism⁵, which risks taking us back to Chomsky's (1965) dismissal of set-systems.

Though, of course, it is perfectly possible that some externalization mechanisms will be found which accounts for the conversion of the universal set-based hierarchical organization to the variety of word orders within and across languages, the task is anything but trivial. What is some times assumed ("that the physics of speech [leaves] just two options: the head either precedes or follows its complements (see Eguren, Fernández-Soriano and Mendikoetxea 2016:12 and other works cited there) seems far from being sufficient. It falls short of a number of generalizations, among which:

(16)a. Why are there more ordering possibilities to the right of a lexical head than to its left?

b. Why, out of all mathematically possible orders, only a subset is apparently attested?

c. Why can subnominal ellipsis target a certain modifier only if all constituents below it are also elided?

Here I only briefly discuss the first two generalizations (referring to Cinque 2005 and 2009 for more detailed discussion) and devote more time to the third one, which does not appear to be directly connected with word order, but in fact turns out to be dependent on it (Cinque 2012).

⁵ Chomsky (2001:37): "a substantial core of head-raising processes (...) may fall within the phonological component"; Berwick and Chomsky (2011:37–38; 2016,82): "Parameterization and diversity, then, would be mostly–possibly entirely–restricted to externalization"; Chomsky (2013:36): "Order and other arrangements are a peripheral part of language, related solely to externalization at the SM interface, where of course they are necessary."

I assume that a theory of externalization should be able to derive these generalizations.⁶ As movement appears to provide a unified answer to them, there may be some reason to retain at least *some* apparently meaningless movement in narrow syntax, which in turn will allow us to retain the LCA (whether in narrow syntax, perhaps modified along the lines of Kayne 2018, or at PF).

a. Why are there more ordering possibilities to the right of a lexical head than to its left?

Order of Demonstratives, numerals, and adjectives (Greenberg 1963,87)

(17)a Dem > Num > A > N (English, Malayalam,...)

b *A > Num > Dem > N 0

c N > Dem > Num > A (Abu', Kikuyu,...)

d N > A > Num > Dem (Gungbe, Thai,...)

Order of attributive adjectives (not derived from RCs) (Hetzron 1978; Plank 2006)

(18)a A_{size} > A_{color} > A_{nationality} > N (English, Serbo-Croatian...)

b *A_{nationality} > A_{color} > A_{size} > N 0

c N > A_{size} > A_{color} > A_{nationality} (Welsh, Irish, Maltese...)

d N > A_{nationality} > A_{color} > A_{size} (Indonesian, Yoruba,...)

Order of adverbs (Cinque 1999, Rakowski and Travis 2000)

(19)a Adv_{no longer} > Adv_{always} > Adv_{completely} > V (English, Chinese,...)

b *Adv_{completely} > Adv_{always} > Adv_{no longer} > V 0

c V > Adv_{no longer} > Adv_{always} > Adv_{completely} ((main clause) German, Italian...)

d V > Adv_{completely} > Adv_{always} > Adv_{no longer} (Malagasy, Niuean,...)

This is also what we find with the relative order of circumstantial PPs. If we limit ourselves to Time, Place and Manner PPs, whose order has been investigated from a cross-linguistic perspective by Boisson (1981), and Lu (n.d.) (also see Cinque 2002, Schweikert 2005), we find the same pattern:⁷

⁶ Incidentally, it is not clear how direct linearization theories for the DP like that of Kremers (2009), which does not dispense entirely with meaningless movement, and that of Hall (2015), which has to assume different Merge structures for the DP, can derive these generalizations.

⁷ On the interference of focus on the canonical order of circumstantial PPs and possible diagnostics for the canonical order, see Cinque (2002), Schweikert (2005).

Order of circumstantial PPs (Boisson 1981; Lu n.d.; Hinterhölzl 2002; Cinque 2002)

- (20)a Time > Place > Manner **V** (Basque, Nambikuara,..)
 b *Manner > Place > Time > **V** 0
 c **V** > Time > Place > Manner (V/2 clause German)
 d **V** > Manner > Place > Time (Vietnamese, Yoruba,..)

This is also what we find with the order of (speech act) Mood, Tense, and Aspect with respect to the V (see Bybee 1985, Foley and Van Valin 1984, Cinque 1999, 2007, and the text below):

Order of (speech act) Mood, Tense, and Aspect morphemes (Cinque 2014)

- (21)a Mood Tense Aspect **V** (Nama, Yoruba,...)
 b *Aspect Tense Mood **V** 0
 c **V** Mood Tense Aspect (Comox,...)
 d **V** Aspect Tense Mood (Korean, Malayalam,...)

If one considers the relative order of auxiliary and restructuring (or clause union) verbs (Cinque 2006) with respect to each other and to the lexical verb, one finds a similar pattern. See Koopman and Szabolcsi (2000), Nilsen and Vinokurova (2000), Wurmbrand (2004), Barbiers (2005), and Svenonius (2006):

Order of auxiliary and ‘restructuring’ verbs (Koopman and Szabolcsi 2000,80f, Cinque 2006)

- (22)a Aux ‘begin’ ‘want’ **V** (Hungarian)
 b *‘want’ ‘begin’ Aux **V** 0
 c **V** Aux ‘begin’ ‘want’ (Hungarian)
 d **V** ‘want’ ‘begin’ Aux (Hungarian)

The same pattern is also found within a single language, with respect to the ordering of certain elements. To take one example, Terzi (1999) notes that in front of the verb in Modern Greek only the order in which the dative clitic precedes the accusative clitic is admitted, while after the V either order of the two clitics is possible (see (8)):

Order of (dative and accusative) clitics in Modern Greek (Terzi 1999,86)

- (23)a. mou to/*to mou edoses
 me_{dat} it_{Acc}/it_{Acc} me_{dat} gave.2sg

‘you gave it to me’

- a. Dos’ mou to/to mou
give me_{dat} it_{Acc} /it_{Acc} me_{dat}
‘give it to me!’

Ordóñez (2002) mentions that “Occitan varieties reported in the literature by Teulat (1976) show that while the order is rigid in preverbal position as shown in (9) it might be reversed in postverbal position in (10), which recalls the patterns found in Greek” (p. 217):

Order of (dative and accusative) clitics in Occitan (Ordóñez 2002,217)

(24)a. *Lo me/*me lo dussèt pas veire* (Occitan - Ordóñez 2002,217)

lo(ACC) me(DAT)/*me(DAT) lo(ACC) let not see
‘You did not let me see it.’

b. *Daussa-m lo/-lo me*

let me(DAT) it(ACC)/ lo(ACC) me(DAT)
‘Let me it.’

A similar pattern is apparently found (in those languages in which they overtly combine) with the order of locative (‘at’) and directional (‘to’, ‘from’) prepositions:⁸

Order of directional and locative prepositions (Cinque 2010a,8).

(25)a. P_{Dir} P_{Loc} NP (Romanian: *Ion vine de la școală* ‘(lit.) Ion comes from at school (from school)’)

b. *P_{Loc} P_{Dir} NP 0

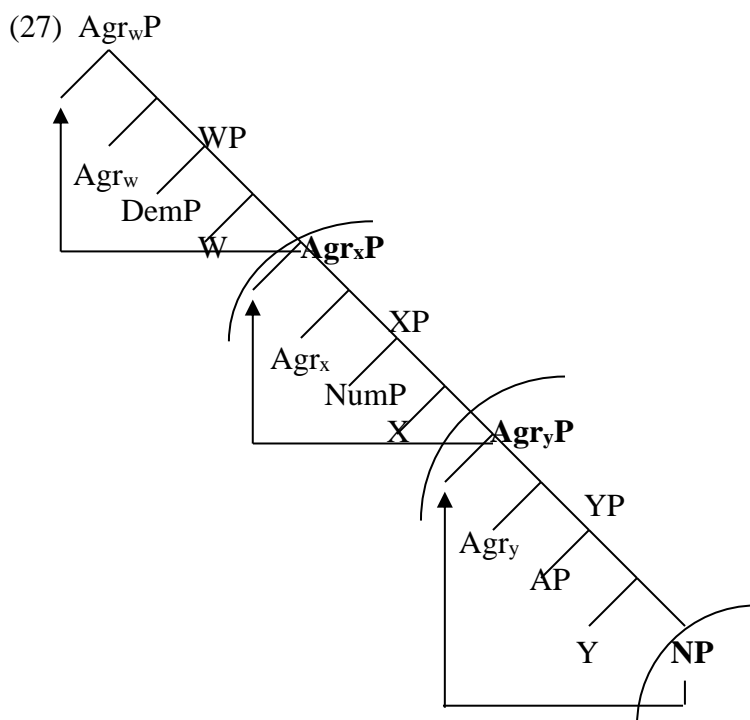
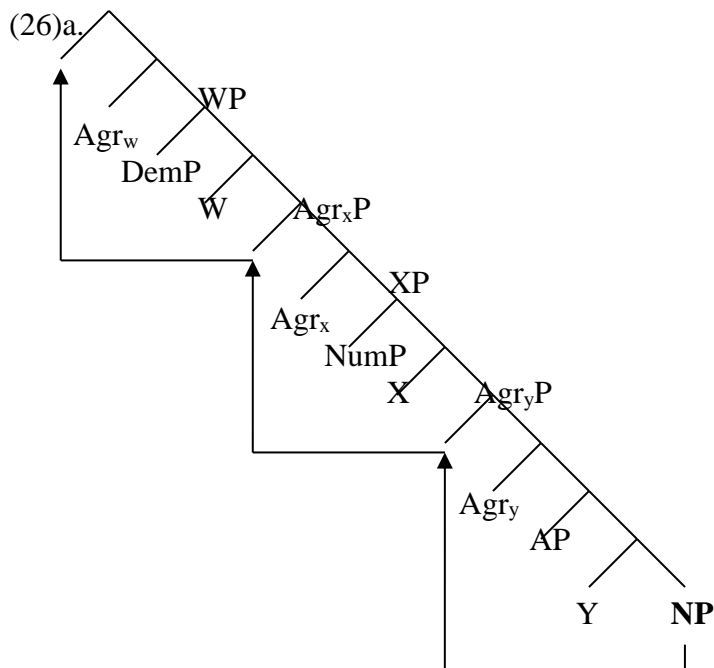
c. NP P_{Dir} P_{Loc} (Iatmul (Papuan): *gay-at-ba* ‘(lit.) house-to-at (to the house)’)

d. NP P_{Loc} P_{Dir} (Jero (Tibeto-Burman): *thalu=na=k* ‘where=LOC=SOURCE (from where)’)

The three possible orders are virtually the same order, either literally the same if we abstract from the position of the lexical category or the mirror order (which is at a more abstract level the same order). This pattern can be made sense of if we take the unique order found to the left of the lexical head to reflect the order of Merge and the two orders found to the right of the head to be a function

⁸ The other two possible orders of the three elements P_{Dir} P_{Loc} NP are also attested: P_{Dir} NP P_{Loc} in Taba (Austronesian - Bowden n.d. *ap-po bbuk li* ‘(lit.) to-down book at’ (onto the book)), and P_{Loc} NP P_{Dir} in Zina Kotoko (Chadic - Tourneux 2003:294 *à jì kàskú kí* ‘LOC inside market toward’ (toward the market)).

of the different way the head of the construction (VP,NP,etc.) moves around the complements/modifiers merged above it, either by itself or via (*whose*-pictures) pied-piping.⁹



⁹ Other left-right asymmetries which it is not clear how externalization at PF could derive include the typological generalization that *wh*-type relative pronouns are possible in post-nominal but not in pre-nominal relative clauses (Downing 1978, Keenan 1985, Kayne 1994).

b. Why, out of all mathematically possible orders of Dem Num A N (24), only a subset (14) is apparently attested?

(28)

a. √ Dem Num A N

b. √ Dem Num N A

c. √ Dem N Num A

d. √ N Dem Num A

e. * Num Dem A N

f. * Num Dem N A

g. * Num N Dem A

h. * N Num Dem A

i. * A Dem Num N

l. * A Dem N Num

m. √ A N Dem Num

n. √ N A Dem Num

o. * Dem A Num N

p. √ Dem A N Num

q. √ Dem N A Num

r. √ N Dem A Num

s. * Num A Dem N

t. √ Num A N Dem

u. √ Num N A Dem

v. √ N Num A Dem

w. * A Num Dem N

x. * A Num N Dem

y. √ A N Num Dem

z. √ N A Num Dem

As I suggested in 2005 the pattern (confirmed by a sample of languages larger than that in 2005) can be derived by imposing a more stringent condition on the movement analysis which was seen to derive the left-right asymmetry just seen: *No constituent can move except for constituents containing the lexical one.*¹⁰

c. Why can subnominal ellipsis target a certain constituent only if all constituents below it are also elided?

I will proceed in 3 steps.

- First, I mention certain restrictions on subnominal ellipsis noted in the literature.
- Second, I consider certain facts from the literature which suggest that ellipsis depends on prior movement.
- Third, I provide some evidence for generalization c. and argue that it follows from the same more stringent conditions on movement that derive Universal 20.

Emonds (2012,330) noted that in the second disjunct of (29a) neither a quantifier nor an adjective can be silent (and understood as present), nor can a demonstrative be silent and understood as present in the second conjunct of (29b) :

(29)a. Can we hire [any young applicants] or [two applicants with tied scores]? (Emonds 2012,330)

Not interpretable as: [**any** two applicants with tied scores]?

Nor as: [two **young** applicants with tied scores]?

b. Try to sell [these two big beds] and [few antiques]

Not interpretable as: [**these** few antiques]

Kayne (2012,78) noted that a sentence like (30)

(30) Mary has written four papers, whereas John has only written squibs. (Kayne 2012,78)

cannot be interpreted as ‘Mary has written four papers, whereas John has only written **four** squibs’ and proposes (31):

¹⁰ Whether the order Dem Num A N is derived by moving nothing (as in Cinque 2005), or by moving the lexical projection in the other type of pied piping (*pictures of whom*) (as in my later work) is not relevant here.

(31) Numerals cannot be left silent unless their (following) associated noun is also left silent.

In Cinque (2012) I suggested, for reasons to be reviewed below, that this condition should be generalized to:

(32) No nominal constituent can be silent (and interpreted as present) unless all constituents below it are also silent.

We can begin to make sense of this generalization if we consider one crucial property of ellipsis: its dependence on the prior movement of the deleted constituent to a left-peripheral position of the conjunct to be subdeleted (Jayaseelan 1990, Rizzi 1994, Johnson 2001, Ntelitheos 2004, Kayne 2006, 2012).

1. A movement approach to ellipsis.

Evidence that ellipsis depends on the prior movement to a left-peripheral position of the constituent to be elided appears to be supported by phenomena like the following.

One is represented by the German “Vorfeld-deletion” pattern in (33) (Ross’s 1982, Cardinaletti 1990), also known as “Topic Drop”,

(33)a. Ich habe das schon gesehen

I have it already seen

b. *Ich habe __ schon gesehen

I have already seen

c. Das habe ich schon gesehen

It have I already seen

d. __ Habe ich schon gesehen

Have I already seen

‘I have already seen it’

and the similar pattern found in Dutch (cf. (34) - Koopman 2000,352) (and other Germanic languages - Sigurðsson 2011,§2):

(34)a. [ik [weet [dat niet

- I know that not
 b. *[ik [weet [___ niet
 I know not
 c. [dat [weet [ik niet
 that know I not
 d. [___ [weet [ik niet
 know I not
 ‘I don’t know that’

As (33)b and (34)b show, in German and Dutch it is not possible to delete a DP in situ, but deletion becomes apparently possible when the first position of the clause, which must otherwise be filled by a constituent, is not filled. This becomes understandable, as the works cited suggest, if deletion (non-pronunciation) of the DP in (33)d, (34)d occurs after (a silent counterpart of) the DP has raised to the first position of the clause.

Another piece of evidence for the same general conclusion comes from an exception to the clitic second requirement on clitics such as the auxiliary *bych* or the reflexive pronoun *si* in Czech. They may occur in first position when a pronominal *to* ‘it’ (or the adverbial *tak* ‘so’) is missing, but understood as present. See (35)a and b:

- (35)a. *Bych netvrđil.*
 would.1sg not.claim
 ‘I wouldn’t claim it’
 b. *Si myslís*
 REFL think.2sg
 ‘That’s what you think’

As explicitly observed in Toman (1996) this should be related to the possibility of non pronouncing the pronominal *to* after moving it to first position as in (36), a fact which recalls, he notes, the German Vorfeld-deletion illustrated in (1) above:

- (36)a. *To bych netvrđil (= (3)a)*
 b. *To si myslís (= (3)b)*

As with Germanic “Verfeld-deletion”, crucially, *to* in Czech cannot be deleted in situ; namely when some other constituent fills the first position. See (i), kindly provided by Lucie Medová:

- (37)a. *dnes bych __ netvrdil
today would.1sg not.claim
‘Today I wouldn’t claim it’
b. *dnes si __ myslíš
today REFL think.2sg
‘Today that’s what you think’

Further evidence comes from the Principle C effects observed for Chinese, Japanese, Korean and Brazilian Portuguese in Huang (1984,538ff). For example, the impossibility of understanding the unpronounced object in (38)a as referring to the same individual as the matrix subject can be made sense of if the pronominal object is \bar{A} -moved to a topic position of the matrix clause as a prerequisite for its non pronunciation, as illustrated in (38)b (for, in that case, the variable left by the movement of the object ends up being A-bound by the subject):

- (38)a. João disse que Pedro viu e (cf. Huang 1984,541)
João said that Pedro saw
(ungrammatical if understood as ‘João_i said that Pedro saw him_i’; grammatical if *e* is understood as referring to an individual mentioned in the previous discourse)
b. *[pro_i [João_i disse que Pedro viu e_i]]

Related evidence that ellipsis involves the previous movement of the elided material is the fact that (at least certain types of) ellipses appear to be constrained by conditions on movement like those responsible for islands. This is in fact the case for the non pronunciation of the object in Portuguese seen in (38), which cannot be found within islands, and which can license a parasitic gap (see Raposo 1986,381ff). It is also apparent in the fact, noted in Rizzi (1982,75fn32), that (verbal) gapping in Italian can affect the second conjunct of two coordinated indirect questions (extraction out of indirect questions is possible in Italian) but cannot affect the second conjunct of an otherwise formally identical conjunction of free relatives (no extraction out of free relatives is possible in Italian). See (6)a-b (I assume that movement of the unpronounced phrase in (6) is to the edge of the second conjunct):

(39)a Non ho ancora capito [[CP chi ha telefonato a Maria] e [CP chi _____ a Giuliana]]

Not I.have yet understood who has called M. and who G.

b *Ho punito [[DP[CP chi ha telefonato a Maria] e [DP[CPchi _____ a Giuliana]]]

I.have punished who has called M. and who G.

Here, I will ignore any language-specific conditions on ellipsis (say, when *one* rather than a gap is required in English), and concentrate on the arguably universal condition that governs what can be elided and be understood as present (if it can be elided), namely (32) above, repeated here as (40):

(40) No nominal constituent can be silent (and interpreted as present) unless all constituents below it are also silent.

First I present more cases (from Italian) showing that if the NP is present, no constituent above it can be silent and understood as present (a generalization of Kayne's principle (31)).

Second I show that even if the NP is silent a certain constituent cannot be silent and understood as present if some lower constituent is pronounced.

After reviewing some evidence for the generalization (40), I will try to show that the generalization follows from the same stringent conditions on movement that derive Universal 20.

Compare first cases where the NP of the second conjunct is not pronounced with those where it is pronounced. In addition to the English cases (29) and (30), seen above, consider the following examples from Italian (for each I list the possible and impossible interpretations):

2. Pre-nominal modifiers.

2.1 Cardinal numerals

(41)a. quei due studenti e questi ~~due studenti~~/studenti

those two students and these ~~two students~~/students

b. quei due studenti e questi *~~due~~ professori¹¹

those two students and these *~~two~~ professors

¹¹ As noted, this fact is observed in Kayne (2012, §4).

2.2 Ordinal numerals

(42)a. La mia prima sconfitta e la sua ~~prima sconfitta/sconfitta~~ (non erano prevedibili)

My first defeat and his ~~first defeat/defeat~~ (were not foreseeable)

b. La mia prima sconfitta e la sua *~~prima~~ vittoria (non erano prevedibili)

My first defeat and his *~~first~~ victory (were not foreseeable)

2.3 Multal/paucal quantifiers

(43)a. Con i suoi molti sostenitori e i tuoi ~~molti sostenitori/sostenitori~~...

With his many sustainers and yours ~~many sustainers/sustainers~~...

b. Con i suoi molti sostenitori e i tuoi *~~molti~~ seguaci...

With his many sustainers and your *~~many~~ followers...

2.4 Pre-cardinal adjectives

2.4.1 *prossimo/scorso* ‘next/last’

(44)a. I loro prossimi due incontri e i nostri ~~prossimi due incontri/due incontri/incontri~~

their next two matches and ours ~~next two matches/two matches/matches~~

b. I loro prossimi due incontri e i nostri *~~prossimi~~ *~~due~~ allenamenti

their next two matches and our *~~next two~~ coachings

2.4.2 *solito* ‘usual’

(45)a. i nostri soliti tre clienti e i vostri ~~soliti tre clienti/tre clienti/clienti~~

our usual three customers and yours ~~usual three customers/three customers/customers~~

b. i nostri soliti tre clienti e i vostri *~~soliti~~ *~~tre~~ fornitori

our usual three customers and your *~~usual~~ *~~three~~ suppliers

2.5 Post-cardinal adjectives¹²

(46)a. Le mie principali preoccupazioni e le sue ~~principali preoccupazioni/preoccupazioni~~

My main worries and his ~~main worries/worries~~

b. Le mie principali preoccupazioni e le sue *~~principali~~ paure

My main worries and his *~~main~~ fears

¹² These correspond to those adjectives that in Cinque (2010b) and references cited there are referred to as “direct modification” adjectives (arguably those not deriving from relative clauses).

3. Post-nominal modifiers.

3.1 Post-nominal adjectives

- (47)a. Le mie preoccupazioni principali e le sue ~~preoccupazioni principali/preoccupazioni~~
My worries main and his ~~worries-main/worries~~
- b. Le mie preoccupazioni principali e le sue paure *~~principali~~
My worries main and his fears *~~main~~

3.2 Relative clauses

3.2.1. Reduced relative clauses

It seems that reduced (participial) and restrictive relative clauses cannot be understood as present and unpronounced if the N is pronounced:

- (48)a. Prima leggo questo articolo appena arrivato, e poi leggo l'altro ~~articolo (appena arrivato)~~
First I read this article just arrived and then I read the other ~~article (just arrived)~~
- b. Prima leggo questo articolo appena arrivato, e poi leggo il giornale (*~~appena arrivato~~)
First I read this article just arrived and then I read the newspaper (*~~just arrived~~)

3.2.2 Restrictive relative Clauses

- (49)a. I primi articoli che ha pubblicato e gli ultimi ~~articoli (che ha pubblicato)~~ (riguardano il Caso)
the first articles that she published and the last ~~articles (that she published)~~ (concern Case)
- b. I primi articoli che ha pubblicato e gli ultimi lavori *~~che ha pubblicato~~ (riguardano il Caso)
the first articles that she published and the last works *~~that she published~~ (concern Case)

3.3 Prepositional Phrases

If Ns do not take arguments (Kayne 2008), nor do they assign theta roles, the expectation is that apparently selected PPs and non-selected (adjunct) PPs should behave alike with respect to ellipsis (in Italian). And they do. Cf. (50) and (51):

- (50)a. La sua descrizione della casa e la tua ~~descrizione della casa~~
his description of.the house and yours ~~description of.the house~~
- b. La sua descrizione della casa e la tua idea (*~~della casa~~)
his description of.the house and your idea (*~~of.the house~~)
- (51)a. Il vostro appartamento sul lago è più grande del loro ~~appartamento (sul lago)~~
your apartment on the lake is bigger than theirs ~~apartment (on the lake)~~

- b. Il vostro appartamento sul lago è più grande della loro casa (~~*sul lago~~)
 your apartment on the lake is bigger than their house (~~*on the lake~~)

This does not mean necessarily that apparently selected and non-selected PPs are merged in the same position. There seems in fact to be evidence that the former are merged lower than the latter (see McCawley 1998). This is to be seen in the next section.

4. A refinement of the generalization and its derivation.

All of the cases of modifiers considered so far showed that they cannot be silent unless the head N (more accurately, the NP) is also silent. But this is, strictly speaking, not sufficient, as the examples in (52) to (57), among others, show: **even if the NP is silent a certain modifier cannot be silent and understood as present if a lower modifier is pronounced.**

4.1 ordinal numerals/pre-cardinal adjectives/post-cardinal adjectives

(52)a. La seconda giornata feriale e la ~~*seconda giornata~~ festiva

the second day working and the ~~*second day~~ festive

‘the second working day and the festive one’

b. I miei soli tre errori e i tuoi ~~*soli~~ due ~~errori~~

my only three mistakes and your ~~*only~~ two ~~mistakes~~

c. Lui ha comprato i tre tavolini tondi più cari ed io i due ~~tavolini~~ rettangolari ~~*più cari~~

He has bought the three most expensive round tables and I the two rectangular ones

(cf. Lui ha comprato i tre tavolini tondi più cari ed io i due ~~tavolini (tondi)~~ meno cari

He has bought the three most expensive round tables and I the two least expensive)

4.2 Universal Quantifiers

Being the next to the highest modifier of the nominal extended projection (below integrated non-restrictive relative clauses – see §4.3), universal quantifiers of the *tutti (e tre)* ‘all (three of)’ type, can never appear silent as there will always be a pronounced lower modifier (and/or the NP):

(53) Tutti (e tre) quei bambini sono stati più fortunati di ~~*tutti (e tre)~~ questi ~~bambini~~

all (three of) those children have been luckier than ~~*all (three of)~~ these ~~children~~

4.3 Non-restrictive relative clauses

As noted in McCawley (1998,445), non-restrictive relatives, as opposed to restrictive relatives, cannot be interpreted as being part of an ellipsis site.¹³ Compare (48)a-(49)a with (54):

(54) Questo violino, che è probabilmente di Stradivari, è meno buono di quello ~~violino, *che è probabilmente di Stradivari.~~

This violin, which probably is by Stradivari, is less good than that ~~violin, *which probably is by Stradivari.~~

The fact that here a non-restrictive relative clause cannot be silent and understood as present follows if it is merged higher than demonstratives (in fact higher than all other nominal modifiers)¹⁴

4.4 Prepositional phrases

While the apparently selected PP *di linguistica* in (55)a is (virtually obligatorily) part of the ellipsis site, the adjunct PP *con invito* in (55)b is very marginally part of the ellipsis site, if at all:

(55)a. Gli studenti di linguistica con invito e quelli ~~studenti di linguistica~~ senza invito

The students of linguistics with an invitation and those ~~students of linguistics~~ without

b. Gli studenti di linguistica con invito e quelli ~~studenti~~ di chimica ??~~con invito~~

the students of linguistics with an invitation and those ~~students~~ of chemistry ??~~with an invitation~~

4.5 Reduced and restrictive and relative clauses

As to reduced and restrictive and relative clauses, although they can be part of the ellipsis site, as noted in §3.2, they cease to be understood as part of the ellipsis site if a modifier merged lower than either of them, is present in the remnant. See (56)-(57):

(56)a. I nostri clienti abituali intervistati e i vostri ~~clienti abituali intervistati~~

the our customers habitual interviewed and the yours ~~customers habitual interviewed~~

¹³ McCawley (1998,445) gives the contrast between (i)a. and b.:

(i)a. Tom has a violin which once belonged to Heifetz, and Jane has one ~~violin which once belonged to Heifetz~~ too

b. Tom has a violin, which once belonged to Heifetz, and Jane has one ~~violin, *which once belonged to Heifetz,~~ too

¹⁴ Even higher than universal quantifiers. See:

(i) Questo violino, che è di Stradivari, è il meno buono di tutti (~~*che sono di Stradivari~~)

This violin, which is by Stradivari, is the worst of all (~~*which are by Stradivari~~)

‘the interviewed habitual customers of ours and yours’

- b. I nostri clienti abituali intervistati e i vostri ~~clienti~~ occasionali (*~~intervistati~~)
the our customers habitual interviewed and the yours (customers) occasional (*~~interviewed~~)
‘the interviewed habitual customers of ours and your (*~~interviewed~~) occasional ones’

- (57) L’attacco aereo che non avevano previsto e quello ~~attacco~~ navale (*~~che non avevano previsto~~)
the air attack that they had not foreseen and the ~~-attack~~ naval (*~~that we had not foreseen~~)
‘the air attack that they had not foreseen and the naval one (*~~that we had not foreseen~~)’

What all of these cases suggest is that:

- (58) “A modifier cannot be left silent (*even if the head N (NP) is silent*) in case some other modifier which is merged lower in the nominal extended projection than the silent modifier is pronounced”.

In other words, a nominal modifier can be silent only if the NP and all other modifiers which are merged between the NP and the modifier in question are also silent (i.e., if it makes up a silent constituent with the NP and all other modifiers in between it and the NP).

Granting its correctness, why should this particular generalization hold?

We know that movement can only affect constituents, which makes a movement analysis of DP-internal ellipsis, where only constituents can be silent, naturally attractive (because of its unifying character). What remains to be understood is why of all DP-internal constituents only those that contain the NP can be silent.

I suggest that this is due to the same more stringent set of principles which I claimed in Cinque (2005) derive, through DP-internal movement, the possible canonical orders of Dem, Num, A and N in the languages of the world; namely the parameters in (59)b i) to iv), applied to a Merge structure like (59)a:

- (59)a. Order of Merge: [RC_{nonrestr} [Q_{univ} [Dem [Num_{ord} [RC_{restr} [Num_{card} [AP [NP]]]]]]]]]¹⁵

b. Parameters of movement:

- i) NP movement plus Pied-piping of the *whose picture*-type or
- ii) NP movement plus Pied-piping of the *picture of who*-type or
- iii) NP movement without Pied-piping

¹⁵ This is only a fragment of the internal structure of nominal phrases.

iv) Neither head movement nor movement of a phrase not containing the NP are possible

To summarize, I have discussed three generalizations characterizing word order (the pervasive left-right asymmetry of natural languages, the attested vs. unattested orders of modifiers in the DP, and the possible vs. impossible ellipses in the DP).¹⁶ Any externalization mechanism should, I think, also account for these word order generalizations in the same unified way in which the meaningless movement analysis of the head of the nominal projection (with pied piping) manages to account in a simple manner. So far no externalization mechanism has been proposed that does that.

Let me conclude with a tentative conjecture. The apparently ‘meaningless’ movements needed “to yield the proper hierarchies” (Chomsky 2004:110 and note 27) that can give rise to the linearization of head-initial/head-final constructions/languages (with a clear effect on the PF side) may perhaps be taken to also have an effect on the LF side if we think that these movements are needed to characterize the extended projection of NP, VP, etc., as categorially nominal, verbal, etc. on the LF side, or to label the nodes of the extended projection, as Luigi Rizzi suggested (with interpretive effects). Alternatively, if these movement chains are taken to be triggered by uninterpretable features, as Richard Kayne suggested, like expletive chains, they can be taken to be neglected at LF (as in Sportiche 2016 – also see Chomsky, Gallego and Ott 2017,fn.12).¹⁷

¹⁶ As noted by Uri Shlonsky, the same conditions that derive generalization c. concerning ellipsis appear to hold of *en/ne*-cliticization.

¹⁷ But as Dominique Sportiche (p.c.) reminds me, the conception of Neglect he proposes “is meant to handle total reconstruction of both A and A-bar movement and is thus incompatible with the idea that movement must have both PF and LF effects. Such an idea would lead to strange results as *wh*-movement or A-movement may, but need not, have interpretive effects. Assuming both mandatory PF and LF effects would lead to the view that *wh*-movement or A-movement are either in syntax, or outside of it, depending on their effect on LF. This strikes me as implausible (what is more plausible perhaps is that movement must have some effects either as PF or at LF).”

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