

Another case of scrambling in Dutch

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0. Introduction

Consider the minimal pair in (1):

- (1) a [De krant gisteren] meldde het voorval niet
the paper yesterday reported the incident not
b [De krant van gisteren] meldde het voorval niet
the paper of yesterday reported the incident not
'Yesterday's newspaper did not report the incident'

According to the Geerts et al. (1984:711), the bracketed constituent *de krant gisteren* in (1a) (henceforth 'pseudo-DP') occurs in spoken language, whereas the seemingly equivalent *de krant van gisteren* (henceforth 'adverbially modified DP') in (1b) would be preferred in written language. Closer examination of this minimal pair reveals that the difference is not stylistic but that the members of the pair have distinct syntactic properties: they have a different syntactic distribution, the presence of *gisteren* makes the occurrence of a contradictory time adverbial impossible in (1a) but not in (1b), and *gisteren* directly influences the temporal interpretation of the finite verb in (1a) but not in (1b). These observations suggest that in (1b) *gisteren* is truly embedded in the DP *de krant van gisteren*, but that in (1a) the adverb *gisteren* is a matrix adverbial. Adverbials of other syntactic and semantic classes behave identical to *gisteren*.

My claim is that a pseudo-DP such as *de krant gisteren* in (1a) is derived by movement of the DP *de krant* into the specifier of the projection of the adverbial *gisteren*, turning the adverbial into a predicate of DP. An independent test, the distribution of stranded focus particles, confirms that movement is involved. It is shown that the availability of this unusual type of movement essentially follows from Kayne's (1994) definition of c-command. If the present proposal is on the right track, it has two important consequences. First, it provides evidence against Sportiche's (1994) idea that adverbials are never adjuncts. Secondly, Neeleman's (1994) inventory of scrambling types available in Dutch (base-generated scrambling and focus scrambling) should be extended with movement to the specifier of an adjunct.

1. The matrix scope of an adverbial in a pseudo-DP

If a time adverbial is truly embedded in a DP, it modifies some constituent within DP or the DP as a whole, but it cannot modify something outside the DP (cf. Neeleman 1994:75). For example, if a DP embeds *gisteren* 'yesterday', the clause containing this DP may contain a matrix time adverb *vandaag* 'today' and there is no contradiction (2a,b). However, as (2c) shows, in the case of a pseudo-DP the presence of *vandaag* in the matrix clause does result in a contradiction, just like when *gisteren* is in the matrix clause (2d). This is the first reason to doubt the idea that the adverbial is embedded in DP in pseudo-DPs.

- (2) a Die gisteren nog zieke man werkte vandaag alweer
 that yesterday still sick man worked today again
 b Die man van gisteren vertelde vandaag de waarheid
 that man of yesterday told today the truth
 c Die man gisteren vertelde (*vandaag) de waarheid
 that man yesterday told today the truth
 d *Die man vertelde gisteren vandaag de waarheid
 that man told yesterday today the truth

Secondly, when *gisteren* is embedded in a DP, a verb in the present tense can be interpreted as referring to the speech time (3a,b), whereas in the case of *gisteren* in a pseudo-DP, a verb in the present tense cannot be so interpreted (3c,d). In this respect, *gisteren* in a pseudo-DP behaves like a matrix adverbial (3e,f).

- (3) a Die gisteren nog zieke man staat in de tuin
 that yesterday still sick man stands in the garden
 b Die man van gisteren staat weer in de tuin
 that man of yesterday stands again in the garden
 c *Die man gisteren staat weer in de tuin
 that man yesterday stands again in the garden
 d *De krant gisteren ligt in de gang
 the newspaper yesterday lies in the hallway
 e *Die man staat gisteren in de tuin
 that man stands yesterday in the garden
 f *De krant ligt gisteren in de gang
 the newspaper lies yesterday in the hallway

Most other time adverbials behave like *gisteren* in this respect.

With certain locative adjuncts we find a similar situation. A pseudo-DP containing a locative adverbial cannot cooccur with a contradictory locative adverbial (4a,b), just as in the case of two matrix locative adverbials (4c,d). *van*

may be inserted between the noun and the locative adverbial, and then the clause may contain a second locative adverbial of the same class (4e,f).

- (4) a [Die man in de tuin] staat (*binnen) te praten
 that man in the garden stands inside to talk
 b De fans thuis zitten comfortabel (*in de concertzaal)
 the fans at home sit comfortable in the concert hall
 c *Die man staat in de tuin binnen te praten
 that man stands in the garden inside to talk
 d *De fans zitten thuis in de concertzaal
 the fans sit home in the concert hall
 e Die man van in de tuin staat binnen te praten
 that man of in the garden stands inside to talk
 f De fans van thuis zitten in de concertzaal
 the fans of home sit in the concert hall

Frequency and modal adverbials are marginally possible in a pseudo-DP. Insertion of *van* is impossible with these classes.

- (5) a ?Oude mannen vaak bewaken (*soms) die parkeergarage
 old men often guard (sometimes) that parking lot
 b De vaak opgewekte jongen was toen soms somber
 the often cheerful boy was then sometimes gloomy
 c *Oude mannen bewaken vaak soms de parkeergarage
 old men guard often sometimes the parking lot
 d ?Die zieke man waarschijnlijk heeft haar (*beslist) gebeld
 that sick man probably has her definitely called
 e Die waarschijnlijk zieke man heeft haar beslist gebeld
 that probably sick man has her definitely called

Compared to the above mentioned adverbial classes, manner adverbials are strongly ungrammatical if contained in a pseudo-DP:

- (6) a Dat meisje heeft het gedicht perfect voorgedragen
 that girl has the poem perfectly recited
 b *Het gedicht perfect heeft het meisje voorgedragen
 that poem perfectly has the girl recited

I give an explanation of the difference between manner adverbials and the other adverbial classes in section 4. What is crucial here is that adverbials in a pseudo-DP have matrix scope, but adverbials in an adverbially modified DP do not.

2. The syntactic distribution of pseudo-DPs

The observations in section 1 suggest that the adverbial in a pseudo-DP is not embedded in DP. Yet, a pseudo-DP must be one constituent if the well known generalization is correct that material preceding the finite verb in Dutch main clauses forms one constituent. Giving this up would cause more problems than it solves; as is well-known, two arguments cannot occur in that position, and reversing the order DP-adverbial yields strongly ungrammatical sentences (7a,b):

- (7) a *Gisteren de krant meldde dit voorval niet
 yesterday the paper reported this incident not
 b *In de tuin die jongen staat te praten
 in the garden that boy stands to talk

The question now arises as to what the syntactic structure of a pseudo-DP is. I propose that the DP is in the specifier of the adverbial phrase:¹

- (8) [AdvP [DP de krant [AdvP [Adv]]]]

The pseudo-DP is not a DP but a projection of the adverbial. This predicts that a pseudo-DP does not have the syntactic distribution of a true argument DP. In the examples given so far, the pseudo-DP is in topic position (say [SPEC,CP]); this position is accessible to both arguments and adjuncts. If a pseudo-DP is in argument position, the sentence is ungrammatical (9a,b). The sentences in (9c,d) show that an adverbially modified DP can occur in an argument position.

- (9) a dat Jan snel de krant (*gisteren) heeft gelezen
 that John quickly the newspaper yesterday has read
 b dat op tafel de krant (*gisteren) lag
 that on table the newspaper yesterday lay
 c dat Jan snel de krant van gisteren heeft gelezen
 that John quickly the paper of yesterday has read
 d dat op tafel de krant van gisteren lag
 that on table the paper of yesterday lay

The test in (9) rests on the fact that a time adverbial cannot follow a manner adverbial (cf. 10a,b): if the pseudo-DP *de krant gisteren* were an ordinary DP containing a time adverbial, we would expect (9a) to be grammatical, just like

¹ The syntactic category of the adverbial is irrelevant here. The adverbial projection may also be a PP. When the adverbial projection is more complex (e.g. a Degree Phrase), the DP is in the highest specifier ([SPEC,DEGP]), such that the entire complex constituent is a predicate of DP.

(9c). If on the other hand the pseudo-DP is a projection of the adverbial *gisteren*, we expect it to be out if embedded under a manner adverbial, for the same reason that a bare time adverbial is barred in this position, whatever that reason may be. A similar story holds for frequency and modal adverbials. Locative adverbials however cannot be conclusively tested in this way, since they have a less restricted distribution (cf. 10c,d).

- (10) a dat Jan gisteren snel de krant las
 that John yesterday quickly the newspaper read
 b *dat Jan snel gisteren de krant las
 that John quickly yesterday the newspaper read
 c dat Jan in de tuin snel de krant las
 that John in the garden quickly the paper read
 d dat Jan snel in de tuin de krant las
 that John quickly in the garden the paper read

If DP is in derived position, like the object in (11), it may occur as a pseudo-DP:

- (11) dat Jan de krant gisteren snel heeft gelezen
 that John the newspaper yesterday quickly has read

Another correct prediction is that a pseudo-DP cannot be the predicate of a small clause in cases in which the bare adverbial cannot be a such a predicate:

- (12) a *Ik weet dat die prop de krant gisteren is
 I know that that ball the paper yesterday is
 b. *Ik weet dat die prop gisteren is
 I know that that ball yesterday is
 c. Ik weet dat die prop de krant van gisteren is
 I know that that ball the paper of yesterday is

3. The derivation of a pseudo-DP

The contrast between (9a) and (11) shows that a pseudo-DP is possible only if the DP is scrambled. This already suggests that a pseudo-DP with the structure in (8) is not base-generated but derived by movement of the DP into the specifier of the adverbial projection. The distribution of numeral-associated focus particles provides independent evidence supporting this movement analysis. Focus particles such as *pas* 'just' are ambiguous between (among others) a numeral-associated and a temporal interpretation. This ambiguity is not lexical but determined by the syntactic position of the focus particle. The generalization for a numeral-associated interpretation is given in (13). This captures the facts in (14) and (15).

- (13) A focus particle may have a numeral-associated interpretation if it immediately c-commands the base position of the PP or DP containing the numeral
- (14) a Jan heeft pas TWEE boeken gelezen
 John has just two books read
 I. 'John has read only two books'
 II. 'Recently, John has read two books'
- b Ik zei dat er pas iemand EEN boek had gelezen
 I said that there just someone one book had read
 I. # 'I said that someone had read only one book'
 II. 'John said that recently someone had read one book'
- c [TWEED boeken]_i heeft Jan pas t_i gelezen
 two books has John just read
 I. 'Only two books has John read'
 II. 'Two books John has read recently'
- d [TWEED boeken]_i denk ik dat Jan pas t_i heeft gelezen
 two books think I that John just has read
 I. 'Only two books I think John has read'
 II. 'Two books I think John has read recently'
- e Ik vertelde EEN man dat ik pas een boek had gelezen
 I told one man that I just a book had read
 I. # 'I told only one man that I had read a book'
 II. 'I told one man that I had read a book recently'

In (14a), *pas* immediately c-commands *twee boeken* which is in base position. The numeral-associated interpretation is available. In (14b), *pas* c-commands the numeral-containing DP but not immediately, hence it does not have a numeral-associated interpretation. The sentences in (14c,d) seem to suggest that a numeral-containing DP c-commanding the focus particle at surface structure is sufficient to get a numeral-associated interpretation. However, (14e) shows that the focus particle really must immediately c-command the base position of the numeral-containing DP: in (14e) *EEN man* is an argument of the matrix verb, hence there is no trace of *EEN man* in the embedded clause. As a result the numeral-associated interpretation is not available.

This behaviour of focus particles makes them a suitable diagnostic for movement: if a sentence includes a numeral-containing DP c-commanding a focus particle and this focus particle can have a numeral-associated interpretation, then the focus particle must immediately c-command the base position of the numeral-containing DP. Application of this diagnostic to pseudo-DPs containing a time adverbial (15), a locative adverbial (16), a frequency adverbial (17) or a modal adverbial (18) shows that pseudo-DPs involve DP-movement.

- (15) a dat ik [[EEN bezoeker]_i gisteren] maar _{t_i} heb gesproken
 that I one visitor yesterday only have spoken
 ‘that I have spoken to only one visitor yesterday’
 b [EEN bezoeker gisteren] heb ik maar gesproken
 one visitor yesterday have I only spoken
 ‘I have spoken to only one visitor yesterday’
- (16) a dat Jan [[EEN ding]_i thuis] maar _{t_i} leuk vindt
 that John one thing home only nice finds
 ‘that John likes only one thing at home’
 b [EEN ding thuis] vindt Jan maar leuk
 one thing home finds John only nice
 ‘John likes only one thing at home’
- (17) a dat Jan [[EEN kamer]_i doorgaans] _{t_i} maar schoonhoudt
 that John one room usually only clean-keeps
 ‘that John usually keeps only one room clean’
 b ?[EEN kamer doorgaans] houdt Jan maar schoon
 one room usually keeps John only clean
 ‘Usually, John keeps only one room clean’
- (18) a dat hij [[EEN ding]_i waarschijnlijk] maar _{t_i} leuk vindt
 that he one thing probably only nice finds
 ‘that John probably likes only one thing’
 b ?[EEN ding waarschijnlijk] vindt Jan maar leuk
 one thing probably finds John only nice
 ‘John probably likes only one thing at home’

The facts in (15)–(18) have two important consequences. First, the a-examples show that the order DP-Adverbial can be derived from the order Adverbial-DP by moving the DP into the specifier of the adverbial projection. Consequently, Neeleman’s (1994) conclusion that Dutch allows only base-generated scrambling and focus scrambling is incorrect: movement to the specifier of an adjunct should be added to the inventory of scrambling types available in Dutch. Secondly, these facts are evidence against Sportiche’s (1994) proposal that adjuncts do not exist. As the b-examples in (15)–(18) show, the pseudo-DP resulting from movement of DP to the specifier of the adverbial projection may be topicalized. This would be impossible if the adverbials involved were heads: movement of such an adverbial would force pied-piping of everything in the complement of the adverbial (say the material to the right of the adverbial in the a-examples in (15)–(18)).

A remark on manner adverbials to conclude this section. Recall that manner adverbials cannot occur in a pseudo-DP. Interestingly, although an object may follow or precede a manner adverbial (19a), the focus particle test indicates that this order variation does not involve movement (19b). This confirms Neeleman’s (1994) conclusion that Dutch has base-generated scrambling.

- (19) a Jan heeft (EEN boek) langzaam (EEN boek) gelezen
 John has one book slowly one book read
 b *Jan heeft EEN boek langzaam nog gelezen
 John has one book slowly yet read

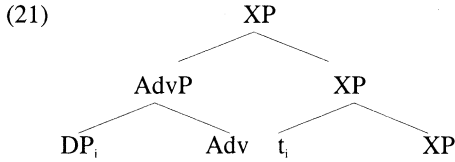
4. *The nature of movement to the specifier of an adverbial projection*

The proposed movement is not a kind of movement that is commonly assumed to exist. At least three questions must be answered: (i) What is the trigger of this movement? (ii) Why is it optional? (iii) Does a constituent in the specifier of an adjunct c-command its trace outside that adjunct? In Barbiers (1994) I argue that a VP must move overtly or covertly to the specifier of an adjunct PP to establish the predication relation between the PP and the VP, and that such movement cannot take place if it does not yield a predication relation. This explains the properties of PP Extraposition. Assume now that DP-movement to [SPEC,ADVP] has the same trigger: to establish the predication relation between DP and the adverbial. Assume further that this movement may take place overtly or covertly.² This answers the first two questions. It also explains the fact that an argument DP cannot move to the specifier of a manner adverbial. By their very meaning, manner adverbials modify a constituent containing the verb, but not a DP-argument. Moving the DP-argument into the specifier of a manner adverbial would turn the adverbial into a predicate of that DP and would hence make the adverbial uninterpretable. How is it that DP-movement to the specifier of an adjunct turns this adjunct into a predicate of the DP? The idea of Barbiers (1994) is that X-bar structure determines all the semantic relations between nodes, in the way stated in (20) (where X, Y and Z range over nodes):

- (20) a **Principle of Semantic Interpretation**
 (i) Z establishes a **S(ematic)-relation** between X and Y iff
 X immediately c-commands Z and Z immediately c-commands Y
 (ii) Z is a **predicate** of X iff Z establishes a S(ematic)-relation between
 X and Y, and X and Y are coindexed
 b **Immediate c-command**
 X **immediately c-commands** Y iff X c-commands Y and there is no
 Z such that X c-commands Z and Z c-commands Y

² This is a property that PP Extraposition and scrambling have in common with focus constructions. The claim that there is a choice to do movement in covert or overt syntax is incompatible with Procrastinate, but consistent with the interpretation-driven approach to movement proposed here: the level at which movement takes place is irrelevant, as long as the required predication relations are there at LF.

The derivation of a pseudo-DP yields the configuration in (21):



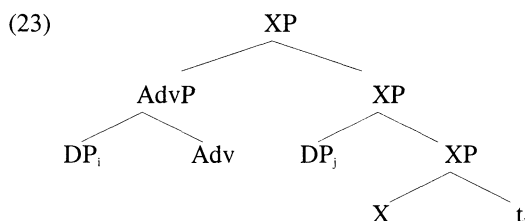
According to the definition in (20), Adv is a predicate of DP_i if DP_i immediately c-commands Adv, and Adv immediately c-commands t_i. Assuming some version of antisymmetry such that c-command is always from left to right and never from right to left, it is obvious that DP_i immediately c-commands Adv: there is no node c-commanded by DP_i that c-commands Adv. The c-command relation between Adv and t_i is perhaps more controversial, as is the c-command relation between DP_i and t_i. Kayne (1994) provides the kind of evidence in (22a) to show that the latter c-command relation exists.³ The relevant observation is that licensing of a polarity item requires a negative element that c-commands the polarity item. Similar evidence can be provided for the c-command relation between Adv and t_i (22b; a PP is used instead of an adverb to show this).

- (22) a Niemand's vader heeft ook maar iets gezegd
 nobody's father has even only something said
 'Nobody's father has said a single word'
- b De bomen in geen enkele tuin hebben ook maar
 the trees in no single garden have even only
 één keer gebloeid
 one time blossomed
 'In no garden have the trees blossomed a single time'

(22b) shows that a node in the position of Adv c-commands t_i, but it does not yet show that it immediately c-commands t_i. Why is AdvP not a closer c-commander? This follows from the definition in (20b), in connection with the common assumption that a node X does not c-command a node Y if X dominates Y or Y dominates X. By this assumption, Adv does not c-command AdvP, hence AdvP does not intervene in the immediate c-command relationship between Adv and t_i.

³ I essentially adopt Kayne's (1994) antisymmetry theory. Notice that in Kayne's theory there is no structural difference between specifiers and adjuncts. The present proposal differs from Kayne's in two respects: I assume to be available (i) multiple adjunction and (ii) movement of a constituent while stranding an adjunct to this constituent.

A consequence of this approach is that predication relations must be established locally. Put differently, since non-local movement would not yield a predication relation, there is no trigger for non-local movement.



There is no predication relation between Adv and DP_i in (23) since Adv does not immediately c-command t_i; Adv c-commands DP_j and DP_j c-commands t_i. This rules out pseudo-DPs derived by non-local movement, as in (24c,f,g). Only movement of the DP that is adjacent to the adverbial yields a predication relation.⁴

(24) Ik zei dat ('I said that')

- a ik gisteren die man de krant heb gegeven
I yesterday that man the newspaper have given
- b ik [die man]_i gisteren t_i de krant heb gegeven,
I that man yesterday the newspaper have given
- c *ik [de krant]_i gisteren die man t_i heb gegeven
I the newspaper yesterday that man have given
- d gisteren die man de vrouwen de krant gaf
yesterday that man the women the paper gave
- e [die man]_i gisteren t_i de vrouwen de krant gaf
that man yesterday the women the paper gave
- f *[de vrouwen]_i gisteren die man t_i de krant gaf
the women yesterday that man the paper gave
- g *[de krant]_i gisteren die man de vrouwen gaf
the newspaper yesterday that man the women gave

The locality of predication also explains the fact discussed in Neeleman (1994) that scrambling may not affect non-verbal predicates (cf. 26a,b).

⁴ As an anonymous reviewer points out, if *both* objects move while preserving their relative order, the problematic configuration [IO_i DO_j ADV t_i t_j] arises in which ADV does not immediately c-command t_j, by the presence of t_i. The problem is solved if Den Dikken & Mulder's (1991) analysis is adopted: the derivation would then be [IO_i DO_j ADV t_j P t_i].

- (25) a dat Jan gisteren die deur groen verfde
 that John yesterday that door green painted
 b *Die deur groen verfde Jan gisteren
 that door green painted John yesterday
- (26) a *dat Jan groen gisteren die deur verfde
 that John green yesterday that door painted
 b *dat Jan die deur groen gisteren verfde
 that John the door green yesterday painted
 c dat Jan de deur gisteren groen verfde
 that John the door yesterday green painted

As (25b) shows, the small clause subject *de deur* and the predicate *groen* are not one constituent at the level that is input for topicalization; this is a well-known objection to the small clause analysis of strings such as *de deur groen*. (26a,b) show that scrambling of the predicate or of the predicate plus the argument yields ungrammaticality. Under the assumption that (25a) reflects the basic order, the ungrammaticality of (26a) follows: the predicate *groen* has skipped its subject *de deur*. A configuration similar to (23) results: movement of the predicate does not create a predication relation, hence it is ruled out. The ungrammaticality of (26b) follows as well: here two constituents have been moved. Only *green* could be in [SPEC,ADVP], but that would mean that *green* has skipped the base position of *de deur*. Again, no predication relation between *green* and the adverbial *morgen* would be established. The only wellformed sentence is (26c), since movement of the small clause subject to the specifier of the adverbial creates a configuration similar to (21). In sum, the hypothesis that predication can only be established locally explains why movement to the specifier of an adjunct is subject to strong locality requirements. Some of the problems for A'-movement analyses of scrambling, namely that scrambling is more local than A'-movement (cf. Vanden Wyngaerd 1989) and more restricted than A'-movement (Neeleman 1994) are therefore not a problem for the type of a scrambling under discussion.

Some of the problems for A-movement analyses discussed in Neeleman (1994) are unproblematic here as well. Trivially, more than one constituent in a single clause may scramble if there is more than one adverbial. Furthermore, the fact that PPs may scramble, which is a serious problem for analyses that assume that scrambling is case-driven, is expected since there is no principled ban on a PP coming into a predication relation with an adverbial. The analysis makes an interesting prediction for PP-scrambling. As was already noted, in a pseudo-DP the only possible order is DP-Adverbial, since the adverbial can be a predicate of the DP but not the other way around (cf. 27a,b). I.e., DP can move into the specifier of the adverbial projection, but the adverbial cannot move into the specifier of the DP. In the case of two predicative constituents, such as the adverbials *vanmorgen* and *in het café* in (27c,d), the expectation is that they can occur in either order in topic position if they can occur in either order in the

Mittelfeld. This is because one adverbial may move into the specifier of the other. As (27e,f) show, this expectation is correct.

- (27) a [Dat broodje vanmorgen] heeft Jan niet opgegeten
 that sandwich this morning has John not eaten
 b *[Vanmorgen dat broodje] heeft Jan niet opgegeten
 this morning that sandwich has John not eaten
 c dat ik vanmorgen (daarom) in het café koffie dronk
 that I this-morning therefore in the café coffee drank
 d dat ik in het café (daarom) vanmorgen koffie dronk
 that I in the café therefore this morning coffee drank
 e [Vanmorgen in het café] heb ik koffie gedronken
 this morning in the café have I coffee drunk
 f [In het café vanmorgen] heb ik koffie gedronken
 in the café this morning have I coffee drunk

5. Conclusion

Dutch has a type of scrambling involving movement of a constituent to the specifier of an adverbial. The trigger of this movement is to establish a predication relation between the adverbial and the moved constituent. The movement may take place in overt or covert syntax. Since, by hypothesis, predication relations can only be established locally, movement to the specifier of an adverbial has a local character. The availability of this unusual type of movement basically follows from Kayne's (1994) definition of c-command. I do not claim that this type of scrambling is the only source of constituent order variation in the Dutch Mittelfeld. Dutch has at least two other types of scrambling, i.e. focus scrambling and base-generated scrambling (Neeleman 1994). Evidence for the latter type of scrambling might come from the focus particle test developed in section 3: it shows that the fact that a manner adverbial and an object can occur in either order is not the result of movement.

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