

Decomposing temporal adverbs

Norbert Corver, UiL-OTS, Utrecht university, June 2017

This paper examines the internal and external syntax of Dutch temporal-adverbial expressions such as zo net, daar net, and daar zo net, which all have the temporal meaning 'a moment ago' (i.e., near past). I propose that these adverbial expressions are actually adpositional structures (PPs), whose P remains "hidden" and whose near-past-reading comes from the presence of a silent P VOOR 'before' and a DP-complement designating utterance time ('now'). I further argue that the word order of these adverbial patterns is a derived one. Specifically, zo, daar, and daar zo move across the modifier net to the left periphery of PP. Besides near-past "adverbial" expressions also near-future expressions are discussed.

Keywords: adverb, PP, temporal, utterance time, displacement

1. Introduction

Adverbs and adverbial expressions have played a somewhat subordinate role in the history of generative linguistics. Plausibly, this is due to their somewhat "elusive" nature. As has become clear from studies on adverbial syntax, the boundaries of the concept "adverb", its grammatical characterization and its syntactic behavior are often unclear and not agreed upon by researchers. This first of all concerns the syntactic categorization of adverbs. Although some researchers have proposed that adverbs form a primitive syntactic class, others, have taken a reductionist approach and reduced them to one or more of the major syntactic categories. For example, Emonds (1985) analyzes the English "adverbs" *seldom* and *often* as

adjectives, given their modifiability by degree words such as *very* and *how*, and Emonds (1987) argues that bare NP-adverbials like *this time* in *I won't visit this time* is actually a PP whose P is "hidden" (i.e., silent).

This article presents a case study on the syntax of a set of temporal adverbial expressions designating near past or near future. The internal make-up of these adverbial expressions is remarkable in that it consists of a sequence of adverbs. For example: *zo net* (so just, 'a moment ago'), *daar net* (there just, 'a moment ago'), and *daar zo net* (there so just, 'a moment ago'). I will argue that these adverbial temporal expressions are actually PPs consisting of a "hidden" P and a DP (*zo*, *daar*, *daar zo*) designating utterance time. I will further propose that the word order of these patterns results from a PP-internal leftward displacement of DP to the left periphery of PP. Specifically, *zo*, *daar* and *daar zo* are moved across the modifier *net*, yielding the derived word order $[zo/daar/daar\ zo]_i\ net\ t_i$.

2. Complex adverbial expressions

Consider the examples in (1):

(1)a. *Ik ga [zo meteen] naar huis.*

I go so immediately to home

'I will go home in a moment.'

b. *Ik ga [zo dadelijk] naar de winkel.*

I go so immediately to the store

'I am about to go to the store.'

c. *Ik bel [zo direct] mijn zoon op.*

I call so directly my son PRT

'I will call my son in a moment.'

The adverbial pattern *zo* + *adverb* has a temporal meaning that can be described as 'shortly after now (i.e., this moment)'. Thus, from the perspective of utterance time, it refers to a near point in the future.

The same adverbial pattern, but now with a different adverb following *zo*, refers to a near point in the past from the perspective of the utterance time; that is, 'shortly before now (i.e., this moment)'.

(2)a. *Ik ben [zo juist] overvallen.*

I am so just robbed

'I have just been robbed.'

b. *Ik ben [zo net] van de trap af gevallen.*

I am so just from the stairs PRT fallen

'I've just fallen from the stairs.'

c. *Ik heb hem [zo even] daarop gewezen.*

I have him so just that.on pointed.out

'I have just pointed out this thing to him.'

Zo can also occur on its own with a temporal meaning, but then only the near-future reading is possible, as in (3a). The near-past reading is ruled out, as shown in (3b):

(3)a. *Ik ga zo naar huis.*

I go so to home

'I will go home in a moment.'

b. **Ik ben zo overvallen.*

I am so robbed

'I have just been robbed.'

The element *zo* in (3a) has an indefinite meaning. As opposed to the temporal adverbs *dan* '(future) then' and *toen* '(past time) then', *zo* does not refer to a definite point in time, but rather to an indefinite one. This contrast is clearly shown by the following examples:

(4)a. A: *Ik ga om 3 uur_i joggen.* B: *Maar precies dan_i komt de schoorsteenveger!*

I go at 3 o'clock jog but exactly then comes the chimney-sweep

b. A: *Waar was u om 3 uur_i?* B: *Ik lag toen_i in bed.*

where were you at 3 o'clock I lay then in bed

(5) A: *Ik ga om 3 uur_i joggen.* B: *Ik ga ook zo_i/*_i joggen.*

I go at 3 o'clock jog I go also so jog

A: 'I will go jogging at 3 o'clock'. B: 'I will also go jogging in a few minutes.'

In (4a,b), the adverbs *dan* and *toen* designate a specific point in time, namely the same point in time as the one designated by the 'antecedent' temporal expression *om 3 uur*. The adverb *zo* in (5), on the contrary, has an indefinite temporal meaning ('at some moment in future') and cannot be interpreted as coreferential with the phrase *om 3 uur*.

Having shown that the pattern *zo* + *adverb* has a proximate temporal reading (near future/past), let us now turn to some of its syntactic properties. That syntax is involved and that "the grammar" of these adverbial expressions is not just a matter of semantics is suggested by the minimal pair (6a) versus (6b):

(6)a. *Jan komt (zo) straks op bezoek.*

Jan comes so soon for visit

'Jan will visit us soon.'

b. *Jan komt (*zo) binnenkort op bezoek.*

Jan comes so soon for visit

'Jan will visit us soon.'

Even though *straks* and *binnenkort* in (6a) have roughly similar semantics (say, a point of time in the near future), their combinatorial properties differ: *zo* can combine with *straks*, *binnenkort* cannot.

Starting with some basic syntactic observations, notice, first of all, that the sequence *zo* + *adverb* forms a constituent. This is exemplified in (7) by means of some traditional constituency tests such as (i) fronting to a position (Spec,CP) preceding the finite verb in second position, as in (7a); (ii) occurrence as an independent utterance, as in (7b); and (iii) occurrence as a conjunct in a coordinate structure, as in (7c):

(7)a. [*Zo meteen*] *komt mijn broer op bezoek.*

so immediately comes my brother for visit

'In a moment my brother will visit us.'

b. A: *Wanneer repareer je de deur?* B: [*Zo meteen*].

when repair you the door so immediately

A: 'When will you repair the door?' B: 'In a moment.'

c. [*Niet alleen zo meteen maar ook later op de dag*] zal het regenen.

not only so immediately but also later on the day will it rain

'It will start rain soon but also later during the day.'

Having shown that a sequence like *zo meteen* forms a constituent, the next question that arises is the following: Which of the two elements forms the head, or core element, of the phrase? Under the assumption that the head of the phrase can stand alone keeping the basic meaning intact, we must draw the conclusion, on the basis of the examples in (8), that *zo* constitutes the head/core element of the complex phrase *zo meteen*; but see later for a more refined structural representation).

(8)a. *Ik ga [zo meteen] naar huis.*

I go so immediately to home

'I will go home in a moment.' (near future)

b. *Ik ga zo naar huis.* (near future)

c. *Ik ga meteen naar huis.* (immediately/now)

'I go home immediately.'

Anticipating a related adverbial pattern consisting of the elements *toen* 'then' and *straks* 'soon' (see section 5), I note that the same observation regarding headedness can be made: the first adverb of this complex adverbial pattern constitutes the head or core element of the phrase:

(9)a. *Ik stond [toen straks] bij de slager. Had ik geen geld bij me.*

I stood then just at the butcher had I no money with me

'I was at the butcher's shop a minute ago. Then it turned out that I had no money with me.'

b. *Ik stond toen bij de slager.*

c. **Ik stond straks bij de slager.*

If *zo* is the head of the pattern *zo* + *adverb*, then the second element —*meteen* / *dadelijk* / *juist* / *even*; see (1) and (2)— functions as a satellite constituent within the complex adverbial expression. Since a head-complement relationship between *zo* and *meteen* does not seem very plausible —*meteen*, for example, is optionally present— I propose that the lexical items *meteen* / *dadelijk* etc. function as modifiers within the "adverbial expression". Evidence in support of their modifier status comes from adpositional structures (PPs) with a temporal meaning. Consider the following examples:

(10) a. *[Meteen na het feest] ga ik naar huis.*

immediately after the party go I to home

b. *[Dadelijk na zijn benoeming] begon Trump met zijn maatregelen.*

right after his appointment started Trump with his decrees

c. *[Even na 4 uur] stortte het gebouw in.*

just after 4 o'clock collapsed the building PRT

When we compare these examples with those in (1), we observe a striking word order difference: in the adpositional pattern in (10), the modifier must precede the PP, while in the "adverbial" pattern in (1) it must follow *zo*. Restricting ourselves to patterns featuring the modifier *meteen*, we have the following minimal pair:

- (11) a. [*<meteen> na het feest <*meteen>*] (see (10a))
 b. [*<*meteen> zo <meteen>*] (see (1a))

Rather than stipulating that *meteen* is base-generated as a left branch modifier in (11a) and as a right branch modifier in (11b), I propose that it is base-generated in one and the same structural position in both constructions. Specifically, I propose that *meteen* is a left branch modifier, and that the word order *zo meteen* results from (obligatory) displacement of the element *zo* from a post-modifier position to a pre-modifier position. Schematically:

- (12) [*meteen [zo]*] → [*zo_i [meteen [t_i]]*]

The leftward displacement of the pro-form *zo* to a position to the left of a modifier is reminiscent of PP-internal leftward movement of so-called R-pronouns in Dutch PPs. As argued in Van Riemsdijk (1978), the pronoun (*in casu*, the singular neuter form *dat* 'that') originates in the complement position of P, undergoes leftward movement, and gets converted into an R-pronoun (*in casu*, the R-pronoun *daar*); but see section 3 for a different interpretation of the R-pronoun. As the temporal PP in (13b) shows, *daar* occupies a landing position either in between the modifier and the adposition or at the left periphery of the adpositional phrase. In the latter position, the displaced R-pronoun precedes the modifier (*vlak*).

- (13) a. [_{PP} *vlak voor zijn dood*]
 right before his death
 b. [_{PP} *<daar_i> vlak <daar_i> voor t_i*]
 that right before
 'right before that'

distributional behavior of PPs. Using the sequence *zo net*, I will show that this is exactly what we find.

First of all, *zo net* displays the well-known PP-over-V behavior: *zo net* can occur in preverbal position, but it can also occur in a postverbal ("extraposed") position.

(15) *We hebben <zo net> erg gelachen <zo net>.*

we have so just much laughed

'We have just laughed a lot.'

Secondly, just like PP-modifiers, *zo net* can occur as a noun phrase internal modifier located in a postnominal position:

(16) [*Die <*zo net> kritiek <zo net>*] was stevig.

that so just criticism was severe

'That criticism a few minutes ago was severe.'

Thirdly, *zo net* can occur as a complement of the goal-expressing preposition *voor* 'for' and the temporal prepositions *tot* 'until', which can all take a temporal PP as their complement:

(17) a. *Deze brandy is [PP voor [PP bij de koffie]] / [PP voor [zo meteen]].*

this brandy is for with the coffee / for so soon

'This brandy goes with the coffee/ This brandy is for later.'

b. *Wacht* [_{PP} *tot* [_{PP} *na het eten*]] / [_{PP} *tot* [*zo meteen*]]!

wait until after the dinner / until so soon

'Wait till after dinner / till then.'

Summarizing, I showed in this section that "adverbial" expressions like *zo meteen* exhibit the distributional behavior of PPs. In view of this external-syntactic behavior I conclude that a hidden adpositional structure is at the basis of expressions like *zo meteen*.

4. An argument from internal syntax

Having shown that sequences like *zo meteen* display the external syntax of PPs, I will now turn to an internal-syntactic argument in support of the presence of a PP-structure. So far, my discussion focused on "adverbial" patterns featuring *zo* as its first element. It turns out that, besides the pattern *zo* + *modifier*, Dutch also has the pattern *daar* + *modifier* (there + *modifier*, meaning 'a moment ago'). See (18):

(18) a. [*Daar net*] *hebben we het Louvre bezocht.*

there just have we the Louvre visited

'We have just visited the Louvre museum.'

b. [*Daar straks*] *hoorde ik iets grappigs.*

there just heard I something funny

'I have just heard something funny.'

Even though there is no adposition present in these patterns, the appearance of the R-pronoun *daar* and its occurrence to the left of a modifier make these patterns quite similar to a prepositional pattern like *daar vlak voor* (there right before, 'right before that').

As shown in (19), patterns are also possible in which *daar* and *zo* are present simultaneously. In those cases, *daar* must precede *zo*.

(19) a. *Ik heb [daar zo net] iets grappigs meegemaakt.*

I have there so just something funny experienced

'Something funny just happened to me.'

b. *Wat die man [daar zo juist] vertelde is waar.*

what that man there so just told is true

'What that man has just told us is not true.'

The question arises what the internal structure of the "cumulus" adverbial expressions in (19) is. Is it *[daar [zo net]]* or *[[daar zo] net]*? According to the latter analysis, *daar* and *zo* form a constituent that precedes the modifier *net*. In what follows, I adopt the latter analysis. More specifically, following Kayne's (2005: chapter 5) analysis of English *there*, I assume that Dutch locative *daar* is parallel to the nominal expression *DIE daar PLACE* (English: *THAT there PLACE*), where the items in small capitals are silent (i.e. unpronounced).¹ I will further adopt Kayne's proposal that the unit *daar PLACE* undergoes DP-internal leftward movement, yielding the pattern in (20):

(20) *[[daar PLACE]_i [DIE t_i]]*

¹ See Katz and Postal (1964:134) for the resemblance between locative *here* and *there* and the phrases *this here place* and *that there place*. See also Emonds (1985:161), who argues that *here* and *there* are NPs, whose internal structures are suppletive for the NPs *this place* and *that place*. More specifically, the structure *[_{NP} [_{DET} here] [_{N'} Ø]]* substitutes for *this place*, and the structure *[_{NP} [_{DET} there] [_{N'} Ø]]* for *that place*.

In a language like Afrikaans, the pattern in (20) surfaces slightly more overtly in the form of the demonstrative pronouns *daardie* 'that' and *hierdie* 'this'. In these patterns, only PLACE is silent: $[[daar PLACE]_i [die t_i]]$.²

In the spirit of Kayne's analysis, I propose that Dutch *daar zo* in *daar zo net* (see (19a)) has the same derivation as Afrikaans *daardie*. The only difference concerns the type of demonstrative pronoun: *zo* is the indefinite demonstrative pro-form that we find in Dutch expressions such as *zo'n man* 'such a man', *net zo groot* 'just as tall', and *Jan gedraagt zich precies zo* 'Jan behaves exactly like that'. This leads us to the base DP-structure in (21a) and the derived DP-structure in (21b):

- (21) a. $[DP\ zo\ [NP\ daar\ TIME]]$
 b. $[DP\ [NP\ daar\ TIME]_i\ [D'\ zo\ t_i]]$

As indicated in (21), I propose that the silent noun designates time rather than place, which are two related notions in the sense that *place* regards spatial location and time temporal location. I tentatively propose that *daar* is an overt manifestation of a locational property —let's assume in Spec,NP— associated with the silent noun TIME. In a way, the NP $[NP\ daar\ [N'\ TIME]]$ designates a *point* (= location) of time. If *zo* is an indefinite demonstrative element and if *zo*, just like demonstrative *die* (see Rooryck 2003:11 and Boef 2013:185), carries an underspecified location feature, then movement of $[NP\ daar\ [N'\ TIME]]$ to the Spec-position of demonstrative *zo* results in a Spec-head configuration. Schematically:

- (22) $[DP\ [NP\ daar_{[location]}\ TIME]_i\ [D'\ zo_{[location:]} t_i]]$

² As Kayne notes, the DP-internal displacement operation in (20) does not take place in English (varieties). This is clear from the word order *that there book* 'that book', which is attested in nonstandard English (see Bernstein 1997).

While DP *daar zo* in *daar zo net* marks a point in time, *daar zo* can also mark a point in space (spatial location). This is exemplified in (23). Observe that this locative pattern also permits variants featuring proximate *hier* 'here' and interrogative *waar* 'where':

(23) a. *Jan woont daar zo / hier zo*

Jan lives there-so / here-so

'Jan lives there/here.'

b. *Waar zo woont Jan?*

'Where does Jan live?'

I propose that locative *daar zo* has the derived structure in (24):

(24) $[_{DP} [_{NP} \textit{daar}_{[location]} \textit{PLACE}]_i [_{D'} \textit{zo}_{[location:]} t_i]]$

Taking temporal *daar zo* to have the structure in (22), the pattern *daar zo net* has the structure in (25), where *daar zo* has been moved from the complement position of P to Spec,PlaceP, and subsequently, to Spec,CP_{Place}.

(25) $[_{CP} [_{\textit{daar zo}}]_i [_{C'} C_{(Place)} [_{DegP} \textit{Spec} [_{Deg'} \textit{net} [_{PlaceP} t'_i [_{Place'} \textit{Place} [_{PP} \textit{Spec} [_{P'} P_{\emptyset} t_i]]]]]]]]]]$

I propose that the sequences *daar net* and *zo net* have exactly the same derivation. They differ from *daar zo net* in the Spell out of the phrase in (22). In *daar net*, the displaced phrase has the form $[[\textit{daar TIME}]_i [_{\textit{ZO}} t_i]]$, in *zo net* it has the form $[[\textit{DAAR TIME}]_i [_{\textit{zo}} t_i]]$.

Now that we have a syntactic representation (viz., an adpositional structure) for adverbial expressions such as *daar zo net*, *daar zo*, *zo net*, etc., let us return to the observation

made earlier that these "adverbial" expressions designate either a near point in the past from the perspective of the utterance time (i.e., 'shortly before now'; see (2)) or a near point in the future from the perspective of the utterance time (i.e., 'shortly after now'; see (1)). I propose that this difference in temporal meaning—that is, near past versus near future—is associated with the semantics of the silent adposition that heads the extended adpositional projection. In the examples in (1), we have the silent adposition NA 'after', whereas in (2), we have the silent adposition VOOR 'before'. This is exemplified in (26a) and (26b) for (2b) —*zo net*— and (1a) —*zo meteen*—, respectively:

- (26) a. [CP ZO_i [C' C_(Place) [DegP Spec [Deg' net [PlaceP t'_i [Place' Place [PP Spec [P' VOOR t_i]]]]]]]]
 b. [CP ZO_i [C' C_(Place) [DegP meteen [Deg' [PlaceP t'_i [Place' Place [PP Spec [P' NA t_i]]]]]]]]

Thus, *zo net* means 'shortly *before* now (this moment)' and *zo meteen* means 'shortly *after* now (this moment)'.
 Thus, *zo net* means 'shortly *before* now (this moment)' and *zo meteen* means 'shortly *after* now (this moment)'.

There is one more meaning component of the overall temporal meaning that deserves our attention, namely the moment of utterance time ('now'), which is at the basis of the near past reading ('before now'; Dutch: *voor nu*) and the near future reading ('after now'; Dutch: *na nu*). I propose that [NP *daar/DAAR* [N' TIME]] in (21) has utterance time (i.e., 'now') as the default interpretation. The question, of course, arises as to whether the utterance point of time ever surfaces overtly (i.e., lexically). Interestingly, Dutch permits temporal "adverbial expressions" of the type in (27); examples drawn from the internet via Google-search:

- (27) a. *Nu net heb ik een smoothie op van appels en kiwi's [...].*
 now just have I a smoothie PRT of apples and kiwi-fruit
 'I have just eaten a smoothie with apple and kiwi-fruit.'

b. *Nu net heb ik mijn belastingaangifte [..] ingeleverd.*

now just have I my tax return handed.in

'I have just handed in my tax return.'

Consider also the examples in (28), which show a more complex "adverbial" expression (i.e., hidden PP), namely *nu zo net* (now so just; 'a moment ago'); examples are drawn from the internet via Google-search.

(28) a. *Nu zo net heb ik Alien Anthology besteld.*

now so just have I Alien Anthology ordered

'I have just ordered Alien Anthology.'

b. *Maar nu zo net was haar neusje weer wat vies en gelig.* [adapted]

but now so just was her nose-DIM again a.bit dirty and yellowish

'But just a moment ago her (i.e., the dog's) nose was a bit dirty and yellow again.'

I propose that *nu net* and *nu zo net* have the structures in (29a) and (29b), respectively:

(29) a. [DP [NP DAAR nu]_i [D' ZO t_i]] + [Deg net] (= *nu net*)

b. [DP [NP DAAR nu]_i [ZO t_i]] + [Deg net] (= *nu zo net*)

Since the expressions in (30) designate a point of time in the near past from the perspective of the utterance time, the adposition of the hidden PP-structure that underlies these adverbial expressions, is the silent adposition VOOR 'before'. Thus, the expressions in (29) have the meaning 'just before now'.

(30) [CP [nu/nu zo]_i [C' C_(Place) [DegP net [_{PlaceP} t'_i [_{Place'} Place [_{PP} Spec [_{P'} VOOR t_i]]]]]]]]]

As shown in (31), "adverbial" expressions featuring an overt lexical item *nu* are also possible with a near future reading; example drawn from the internet.

(31) *Nu zo meteen ga ik een Grieks-Cypriotische film kijken.*
 now so immediately go I a Greek-Cypriototic movie watch

'In a few minutes I'll be watching a Greek-Cypriototic movie.'

I propose that *nu zo meteen* has the structure in (32a) and is part of a PP headed by silent ACHTER 'after' (see (32b)). The expression *nu zo meteen* has a meaning that corresponds to: 'right/soon after now.'

(33) a. [DP [NP DAAR nu]_i [ZO t_i]] + [DegP meteen] (= *nu zo meteen*)

b. [CP nu zo]_i [C' C_(Place) [DegP meteen [_{PlaceP} t'_i [_{Place'} Place [_{PP} Spec [_{P'} NA t_i]]]]]]]]]

Summarizing, I showed in this section that the temporal adverbial expressions that are discussed in this article consist of the following components: (i) a DP that designates the utterance time ('now') and (ii) a hidden P that marks the point *before* or the point *after* the utterance time (i.e. 'now').

5. Conclusion

In this article I tried to show that complex "adverbial" expressions such as *zo net* and *zo meteen* are adpositional structures containing a hidden P that can have the meaning 'before' or

the meaning 'after' and express near past and near future, respectively, in combination with a DP designating utterance time ('now'). I argued that the DP expressing utterance time undergoes PP-internal leftward displacement to the left periphery of PP, yielding a pattern in which the DP precedes the modifier (*net*, *meteen*). Since DP occupies the left periphery of PP, one might expect it to be able to move out of the PP. This, however, turns out to be impossible, as exemplified in (34):

(34) a. * Zo_i ga ik [_{PP} t'_i meteen t_i] naar huis.

so go I immediately to home

'I'll go home in a moment.'

b. * $Daar_i$ heeft Jan [_{PP} t'_i net t_i] gehuild.

there has Jan just cried

'Jan cried a moment ago.'

I leave the analysis of the ill-formedness of the subextraction patterns in (34) for future research, but it can already be noted here that extraction out of adjunct-PPs (as opposed to argument-PPs) often yields a less felicitous structure. Arguably, an adjunct island effect also holds for the patterns in (34).

A second remark that I would like to conclude this article with regards the examples in (35):

(35) [*Toen net/straks*] stond ik bij de bakker.

then just/just stood I at the baker's(shop)

'A moment ago I was at the bakery's.'

These examples show that the adverb *toen* 'then' can also precede modifiers like *net* and *straks*. It seems plausible to analyze these patterns along the same lines as above; that is, *toen* starts out low in the PP-structure and moves leftward to the left-periphery of PP, crossing the modifier. Since *toen* (past tense 'then') can be paraphrased as 'before now', one may speculate that *toen* substitutes for, or spells out, the entire PP in a structure like (30).

Even though the temporal "adverbial" expressions discussed in this article still raise many syntactic questions, I hope to have shown that an intriguing (prepositional) syntax is hidden under the "adverbial surface".

References

- Bernstein, Judy (1997). Demonstratives and reinforcers in Romance and Germanic languages. *Lingua* 102: 87-113.
- Emonds, Joseph (1985). *A Unified Theory of Syntactic Categories*. Dordrecht: Foris.
- Emonds, Joseph (1987). The Invisible Category Principle. *Linguistic Inquiry* 18:613-631.
- Katz, J.J. and P.M. Postal (1964). *An Integrated Theory of Linguistic Descriptions*. Cambridge, Mass.: MIT Press.
- Kayne, Richard (2005). *Here and There*, in R. Kayne (ed.), *Movement and Silence*, 65-84. Oxford: Oxford University Press.
- Koopman, Hilda (2000). Prepositions, postpositions, circumpositions, and particles: The structure of Dutch PPs. In Hilda Koopman (ed.), *The Syntax of Specifiers and Heads*, 204-60. London: Routledge.
- Riemsdijk, Henk van (1978). *A Case Study in Syntactic Markedness*. Dordrecht: Foris.
- Rooryck, Johan (2003). The morphosyntactic structure of articles and pronouns in Dutch. In *Germania et alia. A linguistic webschrift for Hans den Besten*, ed. J. Koster and H. van Riemsdijk, 1-13. Available at <http://odur.let.rug.nl/koster/DenBesten/contents.htm>.