

# On three types of movement within the Dutch nominal domain<sup>1</sup>

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## 1. Superficial symmetry

In *Current Issues in Linguistic Theory*, Chomsky (1964; 34) presents the following well-known minimal pair:

- (1) John is *easy to please*
- (2) John is *eager to please*

At first sight, these constructions are very similar. In both (1) and (2), the sentence corresponds to the following linear ordering of constituents: noun + copular verb + adjective + to + verb. As Chomsky notes, a grammar which only notes the well-formedness of this linear ordering, just reaches the level of observational adequacy. Although from a superficial point of view, the sentences in (1) and (2) are symmetrical, it turns out that the *easy to please*-construction in (1) behaves differently in a number of respects from the *eager to please*-construction in (2). To give one example: (1) can be paraphrased as *it is easy to please John*, while (2) can not; *\*it is eager to please John*. Chomsky states that a descriptively adequate grammar should assign different structural descriptions to (1) and (2). More specifically, (1) should be given a structural description indicating that *John* is the direct object of *please* (the words are grammatically related as in *This pleases John*); the structural description of (2) should indicate that *John* is the logical subject of *please* (as in *John pleases someone*).

In this article I will discuss a case of superficial similarity within the Dutch nominal domain. The superficially identical constructions, which on closer inspection turn out to display different syntactic behavior, are given in (3) and (4).

- |     |    |  |     |    |  |
|-----|----|--|-----|----|--|
| (3) | a. | drie meter zijde<br>three meter silk<br>'three meters of silk' | (4) | a. | drie dagen vakantie<br>three days vacation         |
|     | b. | twee flessen wijn<br>two bottles wine<br>'two bottles of wine' |     | b. | drie minuten voorsprong<br>three minutes headstart |

At first sight, the examples in (3) and (4) seem to be realizations of one and the same syntactic pattern: a quantity denoting nominal (N1) is preceded by a numeral and followed by a mass noun (N2). The N2 in (3) differs from the N2 in (4) as regards the semantic property *concrete* versus *abstract*. That is, in (3) we have a concrete noun whose quantity is specified, whereas in (4) we have an abstract mass noun.<sup>2</sup> Given this semantic distinction, I will refer to the pattern in (3) as the *concrete pattern* and to the pattern in (4) as the *abstract pattern*.

The organization of the paper is as follows. In section 2, I will show on the basis of subextraction and the distribution of approximative phrases that the concrete pattern and the abstract pattern display different syntactic behavior. From the syntactic behavior of the abstract pattern, one might want to conclude that the sequence N1 N2<sub><abstract></sub> does not form a

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<sup>1</sup> This paper was presented at the conference from NP to DP that took place in Antwerp, february 2000. I would like to thank the audience for useful feedback. I am also grateful to two anonymous reviewers for their comments and suggestions. I also wish to thank Tal Siloni for her help with the examples from Modern Hebrew.

<sup>2</sup> The pattern in (3), where N2 is a concrete noun, also permits count nouns as N2, e.g. *twee dozen sigaren* (two boxes cigars; 'two boxes of cigars').

syntactic unit. In section 3, however, evidence will be given for the constituency of this sequence. In section 4, it will be shown that the abstract pattern, which permits subextraction of the left branch nominal element (N1), displays the same movement behavior as the well-known *wat voor N*-construction, which also permits left branch subextraction. Section 5 discusses the internal syntax of the abstract pattern and the concrete pattern. It will be proposed that there is a predication relationship between N1 and N2. The quantity designating noun (N1) predicates over the abstract or concrete mass noun (N2). I will argue, furthermore, that the predicate nominal (N1) follows the “subject” (N2) underlyingly and that the surface order (N1+N2) is derived by means of a process of DP-internal predicate displacement. In the sections 6 and 7, I will discuss three types of nominal constructions featuring predicate displacement and address the question as to what kind of movement is involved. It will be argued that the *N van N*-construction (e.g. *een vod van een jurk*; a rag of a dress), displays predicate displacement of the A-movement type. The abstract pattern (e.g. *twee dagen bedenktijd*; two days time-for-reflection) displays DP-internal predicate movement of the A-bar type. The head movement type, finally, is found in the Dutch concrete pattern (*flessen wijn*; bottles wine). In section 8, I discuss a variant of the abstract pattern, viz. one in which the displaced quantity designating predicate occurs in a position preceding the definite article, as in: *twee dagen de tijd* (two days the time). This construction type clearly shows that the displaced predicate of the abstract pattern occurs in the specifier position of the functional head D (i.e. an A-bar position). Section 9 addresses the issue of cross-linguistic and cross-constructural variation in the domain of DP-internal predicate displacement. The paper is concluded in section 10.

## 2. Underlying asymmetries

On closer inspection of the patterns in (3) and (4), it turns out that underneath of the superficial, linear symmetry (i.e. *Numeral+N1+N2*), there is hidden a remarkable syntactic asymmetry. A first asymmetry between the concrete pattern and the abstract pattern concerns the distribution of what I call approximative phrases, i.e. constituents that are introduced by the coordinating conjunction *of*, which is followed by a numeral. As illustrated in (5), N1 and N2 cannot be separated by an intervening approximative phrase in the concrete pattern.<sup>3</sup> (6), on the other hand, shows that it is possible in the abstract pattern:

- (5) a. \*Na [een fles of twee wijn] voel ik me meestal een stuk beter  
After a bottle or two wine feel I myself mostly a lot better  
b. \*[Een bakkie of drie koffie] drinkt Jan gewoonlijk  
A cup of three coffee drinks Jan normally  
c. \*Jan doet meestal [een plakje of drie kaas] op zijn boterham  
Jan puts normally a slice or three cheese on his sandwich

<sup>3</sup> For some speakers of Dutch, the contrast between (5) and (6) is less sharp. They judge (6) as being ?\* rather than \*. As pointed out to me by Henk van Riemsdijk, separation of N1 and the concrete noun N2 is often permitted in recipes:

- (i) Men voege toe een lepelkje of twee nootmuskaat, een mespuntje of drie kruidnagel en een druppeltje of vier Crème de Cassis  
One add-SUBJUNCTIVE PRT a spoon or two nutmeg, a knife-point or three clove and a drop or four Crème de Cassis

Besides the pattern *een fles wijn of twee* (a bottle wine or two), Dutch has the construction: *een fles wijn of zo* (a bottle wine or so; ‘a bottle or so of wine’), where *of zo* is an expression of approximation. Speakers of Dutch strongly reject the sequence in which *of zo* precedes N2: \**een fles of zo wijn*. Importantly, the sequence in which *of zo* precedes N2 is permitted for the abstract pattern: *een minuut of zo bedenktijd* (a minute or so time-for-reflection).

- (6) a. Jan kreeg [een minuut of drie voorsprong]  
Jan got a minute or three headstart  
b. [Een dag of twee bedenktijd] zullen ze hem toch wel geven  
A day or two time-for-reflection will they him yet surely give  
c. [Een dag of twee uitstel] denk ik dat hij wel zal krijgen  
A day or two delay think I that he surely will get

Observe that the concrete pattern in (5) is well-formed when the approximative phrase follows N2; see (7). As shown in (8), this is not permitted in the abstract pattern.

- (7) a. Na [een fles wijn *of twee*] voel ik me meestal een stuk beter  
b. [Een bakkie koffie *of drie*] drinkt Jan gewoonlijk  
c. Jan doet meestal [een plakje kaas *of drie*] op zijn boterham  
(8) a. \*Jan kreeg [een minuut voorsprong *of drie*]  
b. \*[Een dag bedenktijd *of twee*] zullen ze hem toch wel geven  
c. \*[Een dag uitstel *of twee*] denk ik dat hij wel zal krijgen

A second asymmetry between the concrete pattern and the abstract pattern concerns the possibility of splitting the measure-constituent from N2, resulting into a discontinuous pattern. The concrete pattern does not allow such a split (see (9)); the abstract pattern does (see (10)).<sup>4</sup>

- (9) a. \**Hoeveel lepels* kreeg Jan *suiker* in zijn thee?  
How-many spoons got Jan sugar in his tea  
b. \**Hoeveel zakjes* zal Jan *drop* krijgen van oma?  
How-many bags will Jan liquorice get from grandma  
c. \**Hoeveel lepels* zal ik Jan *hoestdrank* geven?  
How-many spoons shall I Jan cough-mixture give  
(10) a. *Hoeveel dagen* zal ik ze *bedenktijd* geven?  
How-many days shall I them time-for-reflection give  
b. *Hoeveel gulden* denk je dat ie *korting* zal krijgen?  
How-many guilders think you that he reduction will get  
c. *Hoeveel meter* moest hij *afstand* nemen van de bal?  
How-many meter had-to he distance take from the ball

Pied piping yields a well-formed output for both patterns:

- (11) a. *Hoeveel lepels suiker* kreeg Jan in zijn thee?  
b. *Hoeveel zakjes drop* zal Jan krijgen van oma?  
c. *Hoeveel lepels hoestdrank* zal ik Jan geven?

<sup>4</sup>The N2+verb-sequences in (10) and (12) seem to form fixed combinations (collocations) with N2. The split abstract pattern is less acceptable with certain other verbs:

- (i) a. ??*Hoeveel dagen* heeft dat *bedenktijd* gevergd  
How-many days has that time-of-reflection demanded  
b. ??*Hoeveel uur* heeft de dokter *rust* voorgeschreven?  
How-many hours has the doctor rest prescribed

Also in other discussions on extraction from noun phrases, linguists have hinted at the nature of the relationship between the verb and the noun. In their reaction to Chomsky's (1973) observation that extraction from NP is possible (e.g. *Who did you see [a picture of --]?*), Bach & Horn (1976), for example, note that the choice of the verb is relevant: \**Who did you destroy [a picture of --]?* In these discussions on extraction from NP, the question has often been raised whether the PP, from which an element is removed, is really part of the noun phrase. The same question could be raised for the measure phrases in sentences like (10). That is, one could propose that the N2+V-combination forms a syntactic unit and that the measure phrase is an adjunct within the VP. In section 2, this alternative analysis will be rejected.

- (12) a. *Hoeveel dagen bedenktijd* zal ik ze geven?  
 b. *Hoeveel gulden korting* denk je dat ie zal krijgen?  
 c. *Hoeveel meter afstand* moest hij nemen van de bal?

### 3. Constituency

Thus far, we have seen that the abstract pattern and the concrete pattern behave differently in two respects: First of all, N1 can be followed by an approximative phrase in the former pattern, but not in the latter. Secondly, in the abstract pattern N1 can move along with a question word, leaving behind N2; this is not allowed in the concrete pattern. These two properties of the abstract pattern are quite remarkable, especially the latter one since, in general, subextraction out of a nominal constituent is not permitted. Given this remarkable behavior, one might even want to propose that the abstract pattern does not form a constituent; i.e. the sequence NUM+N<sub>1</sub> would not form a syntactic unit with N<sub>2</sub>. In this section, I will show that this non-constituency analysis is wrong. The abstract pattern, just like the concrete pattern, forms a syntactic unit (i.e. a complex nominal construction).

Let us first be a bit more specific about the implementation of a non-constituency analysis for the abstract pattern. A line of analysis would be to say that the split pattern is really the result of preposing of a measure phrase which is base-generated in a VP-internal but DP-external position. This would yield a structure like (13a); (13b) would be at the basis of the split pattern in (10a).

- (13) a. ...[VP [NP<sub>1</sub> NUM+N<sub>1</sub>] [V' [NP<sub>2</sub> N<sub>2</sub>] V]]  
 b. ...[VP [NP<sub>1</sub> *hoeveel dagen*] [V' [NP<sub>2</sub> *bedenktijd*] V]]  
     *how-many days time-for-reflection*

As shown in (14), measure phrases do occur as modifiers within the verbal projection:

- (14) a. Ik geloof dat Jan *vijf kilometer* gefietst heeft  
       I believe that Jan five kilometers cycled has  
 b. Ik geloof dat het morgen *vijf graden* gaat vriezen  
       I believe that it tomorrow five degrees goes freeze

There are good reasons for rejecting the non-constituency analysis in (13) and for adopting an analysis according to which the abstract pattern forms a nominal construction. The constituency of the sequence is first of all shown by the fact that it can be fronted as a syntactic unit to [Spec,CP]:

- (15) [*Een minuut of vijf bedenktijd*]<sub>i</sub> geloof ik dat Jan t<sub>i</sub> kreeg  
       A minute or five time-for-reflection believe I that Jan got

Another argument in support of the constituency of the string NUM+NI+N2 comes from pronominalization: the sequence can be replaced by a pronominal element.

- (16) Jan kreeg [*vijf minuten bedenktijd*] en Marie kreeg *dat* ook  
       Jan got five minutes time-for-reflection and Mary got that too

Finally, the coordination test (only constituents can be coordinated) shows that the string NUM+NI+N2 forms a syntactic unit:

- (17) [[*3 minuten voorsprong op Karel*] en [*2 minuten achterstand op Kees*]] geloof ik dat  
       Jan had

3 minutes headstart on Karel and 2 minutes headstart on Kees believe I that Jan had

In short, the constituency of the abstract pattern is undeniable, and there is no support for the alternative structural representation in (13). Notice also that if one adopted such a representation, the following (ill-formed) preposing patterns would be incorrectly predicted to be well-formed:

- (18) a. \*?*Korting* geloof ik dat Jan [*twee gulden* ---] zal krijgen  
Reduction believe I that Jan two guilders will get  
b. \*?*Bedenktijd* denk ik dat Jan [*drie maanden* ---] zal krijgen  
Time-for-reflection think I that Jan three months will get

If one adopts an underlying structure like (13), these preposing patterns would simply involve fronting of the entire (nominal) complement of the verb. As shown by the following examples, such a preposing pattern is possible, in principle.

- (19) a. *Korting* denk ik dat Jan --- zal krijgen  
Reduction believe I that Jan – will get  
b. *Bedenktijd* denk ik dat Jan --- zal krijgen  
Time for reflection think I that Jan will get

Under an analysis in which the measure phrase forms a constituent together with the N2, the ill-formedness of the examples in (18) plausibly relates to the fact that a noun phrase-internal modifier cannot be stranded.

#### 4. Parallelism between the *wat voor N*-construction and the abstract pattern

In the previous section I have shown that the sequence *NUM+NI+N2* forms a constituent. This means that the discontinuous pattern, in which *NUM+NI* is separated from N2, must be the result of subextraction out of the nominal domain. As already pointed out above, subextraction of a left branch element out of a nominal constituent is generally impossible (see Ross's (1967) Left Branch Condition). There is a well-known construction in Dutch, however, which forms an exception to this general ban on left branch extraction, namely the *wat voor N*-construction (cf. Den Besten 1985, Corver 1991, Bennis 1995). In what follows I will show that the split abstract pattern displays the same movement behavior as the split *wat voor N*-construction.

As shown in (20), the *wat voor N*-construction allows two patterns: (i) the discontinuous or subextraction pattern (cf. (20b)) and (ii) the pied piping pattern, i.e. the pattern in which the rest of the noun phrase moves along with the wh-element *wat* (cf. (20a)).

- (20) a. [Wat voor prijs]<sub>i</sub> zal hij waarschijnlijk t<sub>i</sub> ontvangen?  
What for prize will he presumably receive  
'What kind of prize will he receive presumably?'  
b. Wat<sub>i</sub> zal hij waarschijnlijk [t<sub>i</sub> voor prijs] ontvangen?  
What will he presumably for prize receive

As pointed out by Den Besten (1981), subextraction of *wat* out of the *wat voor N*-construction yields the best result when the noun phrase is a direct object complement to the verb (see (20b)). The split patterns in (10) show that subextraction of the measure phrase out of the noun phrase is permitted if the noun phrase has the function of direct object.

Subextraction of *wat* (21a) or the measure phrase (22b) is not possible when the noun phrase is part of a PP selected by the verb. Pied piping of the entire PP is required (22).

- (21) a. \**Wat<sub>i</sub>* heb jij [<sub>PP</sub> op [<sub>t<sub>i</sub></sub> voor iemand]] gerekend?  
 What have you on for someone counted  
 'What kind of person did you count on?'  
 b. \**[Hoeveel minuten]<sub>i</sub>* had jij [<sub>PP</sub> op [<sub>t<sub>i</sub></sub> bedenktijd]] gerekend?  
 How-many minutes have you on time-for-reflection counted  
 'On how many minutes' time for reflection did you count?'
- (22) a. [<sub>Op</sub> [*wat voor iemand*]]<sub>i</sub> heb jij <sub>t<sub>i</sub></sub> gerekend?  
 b. [<sub>Op</sub> [*hoeveel minuten bedenktijd*]]<sub>i</sub> had jij <sub>t<sub>i</sub></sub> gerekend?

Noun phrases that occupy the structural subject position (Spec,IP) also form islands for extraction (the so-called Subject condition; see e.g. Chomsky 1986). (23a) shows that *wat* cannot be removed out of a subject noun phrase (cf. Den Besten 1985). The impossibility of extracting the measure phrase out of a subject is exemplified in (24a). As illustrated by the b-examples, movement of the entire subject noun phrase yields a well-formed sentence.<sup>5</sup>

- (23) a. \**Wat<sub>i</sub>* denk je [<sub>CP</sub> dat [<sub>t<sub>i</sub></sub> voor mensen] hun huis hebben verkocht]?  
 What think you that for people their house have sold  
 'What kind of people do you think have sold their house?'  
 b. *Wat voor mensen<sub>i</sub>* denk je [<sub>CP</sub> dat <sub>t<sub>i</sub></sub> hun huis hebben verkocht]?  
 (24) a. \**Twee dagen<sub>i</sub>* denk ik [<sub>CP</sub> dat [<sub>t<sub>i</sub></sub> rust] wel voldoende zal zijn]  
 Two days think I that rest surely sufficient will be  
 'I think two days' rest will be sufficient'  
 b. *Twee dagen rust<sub>i</sub>* denk ik [<sub>CP</sub> dat <sub>t<sub>i</sub></sub> wel voldoende zal zijn]

In this context it is interesting to point out another similarity between the split *wat voor N*-construction and the split abstract pattern: both constructions permit subextraction out of the subject noun phrase, if the subject occupies the structural object position (i.e. is a complement to V). Such a configuration is found, for example, in passive constructions like (25), where the indirect object precedes the nominal constituent bearing the grammatical function of subject (example from Koster 1987):

- (25) *Wat<sub>i</sub>* werd hem [<sub>t<sub>i</sub></sub> voor boek] gegeven?  
 What was him for book given  
 'What kind of book was given to him'

Notice now that the same structural context allows subextraction of the measure constituent:

- (26) *Hoeveel minuten<sub>i</sub>* werd hem [<sub>t<sub>i</sub></sub> uitstel] verleend?  
 How-many minutes was him delay offered

<sup>5</sup> Extraction of *wat* out of a subject noun phrase tends to improve when *er* is added. Compare (i) with (23a):

- (i) *Wat<sub>i</sub>* denk je [<sub>CP</sub> dat [<sub>er</sub> [<sub>t<sub>i</sub></sub> voor mensen] hun huis hebben verkocht]?  
 What think you that there – for people their house have sold  
 'What kind of people do you think have sold their house?'

The accessibility of *wat* for subextraction arguably relates to its lower (possibly, VP-internal) position within the clause. As shown by (ii), subextraction of the measure phrase from within the abstract pattern is also permitted when *er* occupies [Spec,IP] and the real subject (*hoeveel meter afstand*) is lower in the clausal structure:

- (ii) [<sub>CP</sub> *Hoeveel meter<sub>i</sub>* moest [<sub>IP</sub> <sub>er</sub> [<sub>t<sub>i</sub></sub> afstand] genomen worden van de bal]]]?  
 How-many meter had-to there – distance taken to-be from the ball

'A delay of how many minutes was offered to him?'

A fourth island condition which the split *wat voor N*-construction and the split abstract pattern are both sensitive to is the so-called Negative Island constraint (Ross 1983). Ross (1983) observes for English that non-arguments (i.e. elements that do not receive a thematic role from a predicate) cannot be moved across a c-commanding negation-element. In Corver (1991), the following contrast is noted for Dutch (see also Honcoop 1995):

- (27) a. *Wat<sub>i</sub> wist Jan niet [dat hij t<sub>i</sub> moest lezen]?*  
What knew Jan not that he had-to read  
'What didn't Jan know that he had to read?'  
b. *\*?Wat<sub>i</sub> wist Jan niet [dat hij [t<sub>i</sub> voor boeken] moest lezen]?*  
What knew Jan not that he for books had-to read  
'What kind of books didn't John know that he had to read?'

In (27a), the interrogative pronoun can be moved across the c-commanding negative element *niet*. This is allowed, since *wat* is an argument-expression here; it receives a thematic role from the verb *lezen*. In (27b), on the other hand, movement of *wat* across *niet* yields an ungrammatical sentence. In this example, however, *wat* is not an argument of the verb *lezen*; it is the entire noun phrase *wat voor boeken* that functions as the argument of this verb. As expected, this noun phrase can be moved across the negation.

- (28) [*Wat voor boeken*]<sub>i</sub> wist Jan niet [dat hij t<sub>i</sub> moest lezen]?

What is the behavior of the split abstract pattern in those negative island environments? The examples in (29) show that the behavior is the same as that of the split *wat voor N*-construction. Movement of the measure constituent across the negation is not permitted (see (29a)). The entire nominal constituent containing the measure phrase, however, can be moved across the negation; see (29b).

- (29) a. *\*?Twee minuten<sub>i</sub> denk ik niet dat Jan [t<sub>i</sub> bedenktijd] zal krijgen*  
Two minutes think I not that Jan time-for-reflection will get  
b. [*Twee minuten bedenktijd*]<sub>i</sub> denk ik niet dat Jan t<sub>i</sub> zal krijgen

In conclusion, the split abstract pattern displays the same movement behavior as the split *wat voor N*-construction. An interesting property that is shared by the two constructions concerns the semantic nature of *wat* and the measure-constituent: the two elements do not behave like arguments (see e.g. the negative island effect); they rather behave like non-arguments. We will see later that the two elements are DP-internal nominal predicates.<sup>6</sup>

## 5. Some remarks on the internal structure

In order to determine the internal structure of the abstract pattern and the concrete pattern, two questions need to be raised: (i) which of the two nouns (N1 or N2) is the nucleus or head of the nominal construction?; (ii) what is the nature of the relationship between the two nominals? My investigation of these questions will lead me to conclude that there is a predication relationship involved in the concrete pattern and the abstract pattern: The quantity designating noun (N1) predicates over the abstract or concrete mass noun (N2). Under the assumption that the predicate nominal (N1) follows the "subject" (N2) underlyingly, the

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<sup>6</sup> See also Koopman & Sportiche (1985) and Rizzi (1990) for the non-argument status of measure phrases. Klooster (1972) already notes the predicative nature of measure phrases.

surface order (N1+N2) must be derived by means of a process of DP-internal predicate displacement.

Let us first consider the question which of the two nouns (N1 or N2) is the nucleus or head of the nominal construction. As regards the notion of nucleus/head, a distinction can be made between the semantic nucleus — i.e. the nominal that stands in a semantic selectional relation to the lexical head (e.g. V) — and the syntactic nucleus — i.e. the nominal that agrees with another word within the noun phrase (e.g. agreement in gender or number).

As shown by the examples in (30), it is sometimes unclear which of the two nouns forms the semantic nucleus. Both the measure nominal (*(drie) jaar*) and the nominal *gevangenisstraf* can combine with the verb *krijgen*. At the same time, it is clear that in (30b), the measuree is implicit, and that in (30c) the measure remains unspecified:

- (30) a. Deze boef kreeg drie jaar gevangenisstraf  
This knave got three years imprisonment  
b. Deze boef kreeg drie jaar  
c. Deze boef kreeg gevangenisstraf

In other cases, however, it is clear that N2 is the semantic nucleus, i.e. the nominal element that stands in a semantic-selectional relation to the verb. In (31), for example, N2 (*korting*) plausibly constitutes the semantic nucleus of the nominal construction. The interpretation of this sentence is: Jan got a discount and this discount amounts to two guilders. We certainly do not have a reading in which Jan receives two guilders (see (31b)). This leads us to conclude that *korting* is the semantic nucleus of the nominal construction.

- (31) a. Jan kreeg [twee gulden korting]  
Jan got two guilders reduction  
b. Jan kreeg twee gulden  
c. Jan kreeg korting

The concrete pattern displays the same behavior: it is the N2 which stand in a semantic-selectional relationship to the verb (see Van Riemsdijk 1998, Corver 1998, Vos 1999). In (32a), for example, it is the cognac rather than the two spoons which gets stirred. And in (32b), the verb *dronk* obviously goes with *bier*.

- (32) a. Jan roerde [twee lepeltjes cognac] door de soep  
Jan stirred two spoons cognac through the soup  
b. Jan dronk [twee glazen bier]  
Jan drank two bottles beer

From the syntactic point of view, it is the first nominal (N1) which behaves like the nucleus: N1 agrees in gender with the demonstrative determiner of the complex noun phrase:

- (33) a. *Dat*<+neuter> *kwartiertje*<+neuter> *bedenktijd*<-neuter> bleek niet voldoende  
That quarter-of-an-hour time-for-reflection turned-out not sufficient  
b. \**Die*<-neuter> *kwartiertje*<+neuter> *bedenktijd*<-neuter> bleek niet voldoende  
(34) a. *Die*<-neuter> *week*<-neuter> *uitstel*<+neuter> kwam hem goed van pas  
That week delay came in useful  
b. \**Dat*<+neuter> *week*<-neuter> *uitstel*<+neuter> kwam hem goed van pas

The concrete pattern behaves in the same way as the abstract pattern: N1 enters into an agreement relationship with the demonstrative determiner:

- (35) a. *Dit*<+neuter> *glas*<+neuter> *wijn*<-neuter> smaakt heerlijk

- This glass wine tastes wonderful
- b. \**Die*<sub><-neuter></sub> *glas*<sub><+neuter></sub> *wijn*<sub><-neuter></sub> smaakt heerlijk
- (36) a. *Die*<sub><-neuter></sub> *slok*<sub><-neuter></sub> *water*<sub><+neuter></sub> schoot in het verkeerde keelgat  
That sip water went into the wrong gullet
- b. \**Dat*<sub><+neuter></sub> *slok*<sub><-neuter></sub> *water*<sub><+neuter></sub> schoot in het verkeerde keelgat

Summarizing, both the abstract pattern and the concrete pattern have a hybrid nature: Semantically, N2 behaves like the nucleus of the nominal construction; syntactically, N1 is the nucleus.

Another nominal construction type displaying this hybrid behavior is the so-called *N van een N*-construction (Paardekooper 1956, Everaert 1992, Den Dikken 1995):

- (37) a. een beer van een vent  
a bear of a man  
'a man like a bear'
- b. een reus van een kerel  
a giant of a man  
'a man like a giant'

As regards semantic selection, N2 is the nucleus of the noun phrase. In (38), for example, it is a woman that John meets and not a tart. The nominal *taart* just gives a characterization of the woman.

- (38) Jan ontmoette [een taart van een vrouw]  
Jan met a tart of a woman

As far as agreement with the determiner is concerned, the examples in (39) show that it is the first noun (N1) which agrees in gender with the demonstrative determiner (example from Den Dikken 1995):

- (39) a. Moest Jantje [*dat*<sub><+neuter></sub> *slagschip*<sub><+neuter></sub> van een vrouw<sub><-neuter></sub>] zoenen?  
Had-to Jan that battleship of a woman kiss  
'Did Jan have to kiss that battleship of a woman?'
- b. \*Moest Jantje [*die*<sub><-neuter></sub> *slagschip*<sub><+neuter></sub> van een vrouw<sub><-neuter></sub>] zoenen?

In light of the above-mentioned similarities, one may wonder what the three nominal constructions (the abstract pattern, the concrete pattern and the *N van een N*-construction) have in common. My answer to this question is that the two nominals in each of the three constructions stand in a predication relation to each other. N1 functions as the nominal predicate and N2 as the subject. In the abstract-pattern and the concrete pattern, we have a quantity denoting predicate, whereas in the *N van een N*-construction we have a quality-denoting predicate. The predication relationship in the three nominal constructions can be paraphrased as follows:

- (40) a. drie minuten bedenktijd      "the amount of time of reflection is three minutes"  
three minutes time-for-reflection
- b. twee lepeltjes cognac      "the amount of cognac is two spoons"  
two spoons cognac
- c. die reus van een kerel      "that guy is like a giant"  
that giant of a guy

If we assume that the predication relation has the basic word order *subject-predicate*, then we can conclude that the surface order in each of the three nominal constructions results from noun phrase-internal predicate displacement: the predicate nominal is moved to the left of the subject. Under the assumption that the predication relation is defined configurationally as a Small Clause (XP) (see Stowell 1981), we have an underlying representation as in (41a). The inverted order is given in (41b).<sup>7</sup>

- (41) a.  $[_{DP} D^o [_{XP} SUBJ [_{X'} X^o [PRED]]]]$   
 b.  $[_{DP} D^o [PRED_i [_{XP} SUBJ [_{X'} X^o t_i]]]]$

## 6. Predicate displacement within the noun phrase

An important question which now arises is the following: What is the nature of the predicate movement operation? In the generative literature, three types of movement are distinguished traditionally:

- A-movement: movement of a maximal constituent XP to an A-position;
- A'-movement: movement of a maximal projection XP to an A'-position; a characteristic property of the landing site (an A'-position) is its escape hatch function.
- Head movement: movement of a head ( $X^o$ ) to another head position.

Let's assume that this typology of movement operations does not only hold for argument-type-categories, i.e. those categories which fulfill an argument function in relation to some predicate) but also to (nominal) predicates (see Bennis, Corver & Den Dikken 1998 and Corver (2000) for further discussion).

In sections 6.1 and 6.2 and in section 7, I will discuss three types of nominal constructions featuring predicate displacement and address the question as to what kind of movement is involved.<sup>8</sup> It will be argued that the first type of nominal construction, the so-called *N van een N*-construction (e.g. *een vod van een jurk*; a rag of a dress), features predicate displacement of the A-movement type. What I have called the abstract pattern (e.g. *twee dagen bedenktijd*; two days time-for-reflection) displays DP-internal predicate movement of the A-bar type. The head movement type, finally, is found in the Dutch concrete pattern (*flessen wijn*; bottles wine).

### 6.1. A-movement in the "N van een N"-construction

Den Dikken (1995) argues that the predicate displacement operation in the *N van een N*-construction is of the A-movement type (see also Bennis, Corver & Den Dikken 1998). Starting from a Small Clause structure as in (42), we can derive the surface order by moving the predicate nominal to the left of the Small Clause subject:<sup>9</sup>

- (42) a.  $[_{XP} jurk [_{X'} [X een] vod]]$   
 b.  $[_{DP} een [_{FP} vod_i [_{F'} F+X_j (=van een) [_{XP} jurk [_{X'} t_j t_i]]]]]$

<sup>7</sup> For other studies on nominal phrases that adopt a DP-internal (small) clause configuration and discuss the application of DP-internal predicate displacement, see: Kayne (1994), Den Dikken (1995), Campbell (1998), Bennis, Corver & Den Dikken (1998).

<sup>8</sup> See Moro (1991, 1997), Den Dikken (1995) and Bennis, Corver & Den Dikken (1998) for discussion of different types of predicate displacement within the clausal domain.

<sup>9</sup> Following Bennis, Corver & Den Dikken (1998), I analyze (the second) *een* as the head of the DP-internal Small Clause. They show that *een* neither belongs to N1 nor to N2. The distribution of this spurious indefinite article in DP-internal predicate displacement environments is an issue for future research.

a rag (of a) dress

After Predicate Inversion has applied, the predicative NP *vod* is in the specifier position of the functional projection FP. Note that the Small Clause head X has raised to F. As proposed by Den Dikken (1995), *van* can be analyzed as a nominal copula here. He argues that this element surfaces as a result of incorporation of the small clause head X into F.<sup>10</sup> Movement of X to F is forced by the theory of locality on movement operations, more in particular by the Equidistance requirement (Chomsky 1993). According to this locality requirement, a constituent which moves to an A-position Y can only skip another A-position, Z, if both A-positions are equally far away (i.e. equidistant) from the extraction site. Two positions are equidistant if they are members of the same Minimal Domain (cf. Chomsky 1993). After X-to-F-movement has applied in in (42b), the nominal *vod* in Spec,FP and *jurk* in Spec,XP are equidistant from the predicate's extraction site ( $t_i$ ).

## 6.2. Head-movement in the concrete pattern

Corver (1998) proposes that the so-called pseudopartitive construction (cf. Selkirk 1977), of which the concrete pattern is a sub-class, is derived by head movement of the DP-internal predicate nominal.<sup>11, 12</sup> That is, a nominal head ( $N^0$ ) is moved out of the predicate position and raised to a position to the left of the subject. More specifically,  $N^0$  is adjoined to the complex head F+X.<sup>13</sup> Schematically:<sup>14</sup>

(43) [DP een [FP [[F+X<sub>i</sub>]+fles<sub>j</sub>] [XP water [X' t<sub>i</sub> [NP [N t<sub>j</sub>]]]]]]]

Empirical support for the idea that head movement has applied here comes from the distribution of approximative phrases (*of+Numeral*). As was discussed in section 2, the N1 of the concrete pattern cannot be separated from N2 by means of an intervening approximative phrase. This is again illustrated in (44):

- (44) a. \*Na [een fles *of twee* wijn] voel ik me meestal een stuk beter  
After a bottle or two wine feel I myself mostly a lot better  
b. Na [een fles wijn *of twee*] voel ik me meestal een stuk beter

<sup>10</sup> Den Dikken draws a parallel with facts observed in Moro (1991, 1997). Moro notes that in clause-internal predicate-inversion contexts, the verbal copula *to be* obligatorily appears. Compare, for example, the straight order in (i) with the inverted order in (ii):

- (i) I consider John (to be) the best candidate  
(ii) I consider the best candidate \*(to be) John

<sup>11</sup> In English, as opposed to Dutch, the *N of a N*-construction (*a hell of a problem*) and the pseudopartitive construction (*a bottle of wine*) display the same syntactic properties (see Corver 1998)

<sup>12</sup> It has been argued that head movement of a Small Clause predicate into a higher head also exists in the clausal domain. It has been claimed that an example like (ia) derives from the underlying structure (ib), by adjoining the adjective *open* to the verb *maken*, and subsequently moving this complex predicate (i.e. [<sub>V</sub> A+V]) to the higher verb *wil*, to which it (right-)adjoins. This yields the derived structure in (ic).

- (i) a. Ik geloof dat Jan de doos wil open maken  
I believe that Jan the box wants open (to)make  
'I believe that Jan wants to open the box'  
b. ...[dat Jan [<sub>SC</sub> de doos [<sub>AP</sub> open]] maken wil]  
c. ...[dat Jan [<sub>SC</sub> de doos [<sub>AP</sub> [<sub>A</sub> t<sub>i</sub>]]] t<sub>j</sub> [<sub>V</sub> wil [<sub>V</sub> open<sub>i</sub>+maken]<sub>j</sub>]]]

<sup>13</sup> I assume that the nominal copula *van* does not surface when the (complex) head ([[F+X]+N]) already contains a lexical element (*fles* in (43)).

<sup>14</sup> This is the structural representation that goes with the quantity reading. The so-called container reading ('a bottle having wine in it') of the sequence *een fles wijn* has a different structure. See Corver 1998 for an analysis.

The introductory word of the approximative phrase is the coordinating conjunction *of*. It does not seem implausible to analyze the approximative phrase as an ellipsed phrase, where the quantity-denoting nominal is lacking after the numeral: *een fles wijn of twee (flessen)*. Underlyingly, we then have the structure in (45). The coordinate structure *fles of twee* forms a complex nominal predicate, consisting of two conjoined nominal predicates, namely the NP *fles* and the ellipsed NP *twee (flessen)*. This complex predicate predicates over the nominal *wijn* that occupies the specifier position of the DP-internal Small Clause (i.e. XP). I further assume that the determiner *een* of the complex noun phrase is in D (*e* stands for ellipsed category):

(45)  $[_{DP} \text{ een } [_{FP} [_{F} \text{ F}] [_{XP} \text{ wijn } [_{X'} \text{ X}^0 \text{ } [[_{NP} \text{ fles}]] \text{ of } [_{NP} \text{ twee } e]]]]]$

Observe that this structure is in line with the standard assumption that conjuncts must be of the same projection-level: i.e. an XP-constituent can only be coordinated with a constituent of the same hierarchical level (YP), but not, for example, with a constituent of another hierarchical level (e.g. the head-level  $Y^0$ ).

The ungrammaticality of (44a), in which the entire coordinated NP (an  $X_{max}$ ) has been moved to the left of the subject *wijn*, suggests that predicate displacement is not of the  $X_{max}$ -type.

As an alternative we have the structure in (46), where the  $N^0$  *fles* has been moved to the left of the Small Clause subject, leaving behind the rest of the coordinated structure.<sup>15, 16</sup>

<sup>15</sup> A possible objection against the head movement analysis in (46) might be the fact that *fles* can be preceded by an attributive AP that enters into a modification relation with this noun, as in *een volle fles wijn* (a full bottle wine). One might take this as evidence for a phrasal analysis of the displaced predicate:  $[_{DP} \text{ een } [[_{volle \text{ fles}}]_i \text{ } [_{XP} \text{ wijn } t_i]]]$ . Simple constituency tests, however, show that the attributive AP occupies a position external to the sequence N1+N2. Consider, for example, the ellipsed noun phrase in (i):

- (i) Wil je [een volle fles wijn] of [een lege --]?  
 Want you a full bottle wine or an empty  
 ‘Would you prefer a full bottle of wine or an empty one?’

This ellipsis-pattern would be predicted to be false under an analysis in which the sequence *volle fles* forms a phrasal unit (i.e.  $[[AP+N1] N2]$ ). The sequence N1 N2 does not form a constituent and hence would not be available for DP-internal ellipsis. Note that a roughly similar argument holds for English: in the English translation in (i), the pro-word *one* substitutes for the sequence *bottle of wine* (which, in fact, does feature phrasal movement of *bottle*). *One*-substitution is only possible if the sequence substituted for forms a syntactic unit. The implication is, of course, that the attributive AP (*empty*) is external to the sequence *N of N*. From the above facts, I conclude that the attributive AP enters into the nominal structure at a point in the derivation at which the unit N1 N2 has already been formed (See also Corver 1998).

<sup>16</sup> One might want to adopt an alternative analysis for the stranding pattern in (46), viz. one in which the sequence *een fles wijn* constitutes a left DP-conjunct which is coordinated with the ellipsed DP-conjunct *twee*. Under such an analysis, the string *een flesje wijn of twee* would receive the following structure:

- (i)  $[[_{DP} \text{ een flesje wijn}] \text{ of } [_{DP} \text{ twee } e]]]$

Since nothing excludes coordination at the DP-level, a structure like (i) is a possible structure. In fact, it is arguably the structure of the ellipsed nominal constituent in (ii), where the right conjunct is interpreted as ‘three glasses of wine’.

- (ii) *Hoeveel glazen wijn drink je gewoonlijk op een avond?*  
 How-many glasses wine drink you usually in an evening  
  
*[Twee glazen wijn of drie [e]]?*  
 Two glasses wine or three  
 ‘two glasses of wine or three glasses of wine?’

(46) [DP een [FP [F' [[F+X<sub>i</sub>]+fles<sub>j</sub>] [XP wijn [X' t<sub>i</sub> [[NP [N t<sub>j</sub>] of [twee e]]]]]]]]]

It is quite interesting to see that the Dutch concrete pattern displays the same syntactic behavior as the so-called Construct State-structure of the concrete pattern in a language like Modern Hebrew. As is well-known from the work on possessive constructions (cf. e.g. Ritter 1988), Construct-State structures have the property that N-raising has applied within the nominal domain.

The concrete pattern manifests itself in three guises: First of all, it can be a Construct State construction; in that case the nouns are adjacent (cf. (47a)). Secondly, it can take the analytic form, i.e. N1 and N2 are separated by the prepositional element *šel* (cf. (47b)).<sup>17</sup> Thirdly, it can have the form of an apposition (cf. (47c)); just like in the Construct State pattern the two nominals involved are juxtaposed.

- (47) a.      bakbuk yáyin                      (Construct State construction)  
              bottle wine  
              'a bottle of wine'
- b.      bakbuk šel yáyin                  (*šel* construction)  
              bottle of wine  
              'a bottle of wine'
- c.      bakbuk yáyin                      (apposition construction)  
              bottle wine  
              'a bottle of wine'

Comparison of (47a) and (47c) shows that the Construct State pattern and the Apposition pattern are sometimes indistinguishable; in those cases the free form of N1 in the apposition pattern and the Construct State form of N1 in the Construct State pattern are identical. There are cases, though, in which the distinction becomes visible, as in *kéara salat* (bowl of salad; 'a bowl of salad') versus *kéarat salat* (bowl of salad; 'a bowl of salad'). The former example has the free ending *-a* (feminine, singular) attached to the stem *kéar*; the latter has the construct ending *-at* (feminine, singular) attached to it. In what follows I will focus on the contrast between the Construct State pattern and the pattern featuring *šel*.

As shown by the examples in (48), the N1 (*bakbuk*) of the Construct State structure cannot be separated from the second noun (*yáyin*) by an intervening attributive AP which has scope over N1. In the analytic construction, N1 and N2 can be separated from each other by an intervening modifier:

- (48) a.      \*bakbuk yarok yáyin  
              bottle green wine  
              'a green bottle of wine'
- b.      bakbuk yáyin yarok  
              bottle wine green  
              'a green bottle of wine'
- (49)      bakbuk yarok šel yáyin

---

I should point out, though, that the interpretation of the coordinated structure in (ii) is different from the approximation interpretation in (46). The construction in (ii) is interpreted as a choice between two options: two glasses of wine or three glasses of wine. It does not have the approximation reading. To this it can be added that the intonation pattern of the ellipted nominal construction in (ii) is different from the approximation construction in (46): in the former, the accent falls on the two numerals (*twee, drie*), whereas in the latter the accent falls on the second noun (i.e. N2) of the string: e.g. *een flesje WIJN of twee* (a bottle WINE or two).

Thus, although structure (i) is a possible structure in Dutch, I think it is the right one for constructions like (ii), but not for the approximation construction in (46).

<sup>17</sup> The definite variant of (47a) is: *bakbuk ha yáyin* (bottle the wine; 'the bottle of wine'). See Glinert (1989).

bottle green of wine  
'a green bottle of wine'

The same contrast is found when the intervening constituent is an approximative phrase. In the Construct State structure, the approximative phrase (*o+NUM*) cannot be placed in between N1 and N2 (see (50)).<sup>18</sup> The noun *tipat*, which has the Construct State form, must be adjacent to N2 (*yáyin*). In the analytic construction, on the other hand, N1 and N2 need not be adjacent (see (51)).

- (50) a. \**tipat o štayim yáyin*  
drop or two wine  
'a drop or two of wine'
- b. *tipat yáyin o štayim*
- (51) [*bakbuk o šnayim*] *šel yáyin*  
bottle or two of wine  
'a bottle or two of wine'

When we compare the Modern-Hebrew examples in (50) with the Dutch examples in (5), we notice that in both languages no approximative phrase can intervene between N1 and N2. Adjacency between N1 and the following nominal phrase is required. This similar behavior suggests that we are dealing here with the same type of nominal construction, viz. a construction in which N-raising has applied to a higher functional head. More specifically, N-raising has applied to the predicate nominal of the DP-internal Small Clause:

- (52) a. [<sub>DP</sub> een [<sub>FP</sub> [<sub>F</sub> [[F+X<sub>i</sub>]+fles<sub>j</sub>] [<sub>XP</sub> wijn [<sub>X'</sub> t<sub>i</sub> [<sub>NP</sub> [<sub>N</sub> t<sub>j</sub>]]]]]]]]  
b. [<sub>DP</sub> D [<sub>FP</sub> [<sub>F</sub> [[F+X<sub>i</sub>]+bakbuk<sub>j</sub>] [<sub>XP</sub> yáyin [<sub>X'</sub> t<sub>i</sub> [<sub>NP</sub> [<sub>N</sub> t<sub>j</sub>]]]]]]]]

Just like in the Construct State realization of the possessive relationship, the raised noun assigns genitive case to the nominal constituent to its right. In present-day Dutch and in Modern Hebrew, this genitive case is not morphologically visible in the concrete pattern. In certain languages, though, genitive case is morphologically expressed in these contexts, e.g. in Standard Arabic (53a) and Middle Dutch (53b); see Stoett (1977).

- (53) a. *senduq-u xudrat-in mukassar-un*  
box-NOM vegetables-GEN broken-NOM  
'a broken box with vegetables'
- b. *een lepel honichs*  
a spoon honey-GEN  
'a spoonful of honey'

## 7. The abstract pattern: A'-movement in the noun phrase

Thus far, we have seen two types of DP-internal predicate movement: (i) A-movement in the *N van een N*-construction (see (42b)); (ii) head movement in the concrete pattern (see (43)). Can we also identify the A'-movement type within the nominal domain? In this section, I will argue that predicate displacement within the abstract pattern instantiates A'-movement.<sup>19</sup>

The fact that the measure phrase can be moved out of the containing noun phrase (cf. (10)) already suggests that we are dealing with predicate displacement of the A'-movement type. For the nominal domain this means that the predicate is moved to Spec,DP. This

<sup>18</sup> *Štayim* is the feminine form, *šnayim* the masculine form.

<sup>19</sup> Recall that the measure phrase of the abstract pattern cannot be moved across a negative element (the Negative Island constraint; see (29)). This is now explained by the predicative status of the measure phrase.

landing site, just like its clausal counterpart, Spec,CP, functions as an escape hatch for extraction (see Szabolcsi 1994). This DP-internal movement operation is represented in (54a). Via Spec,DP, the measure phrase can leave the noun phrase and move to Spec,CP. (54b) illustrates this for sentence (10a) (irrelevant details omitted).

- (54) a. [DP hoe veel dagen<sub>i</sub> [D' D<sup>o</sup> [XP bedenktijd [X' X<sup>o</sup> t<sub>i</sub>]]]]  
 b. [CP [hoeveel dagen]<sub>i</sub> [C' zal<sub>j</sub> [IP ik ze [DP t'<sub>i</sub> [D' D<sup>o</sup> [XP bedenktijd [X' X<sup>o</sup> t<sub>i</sub>]]]]  
 geven t<sub>j</sub>]]]]

That the approximative phrase moves along with the quantity denoting predicate is in accordance with the X<sub>max</sub>-status of the moved predicate (see the examples in (6)).

- (55) [DP [een dag of twee e]<sub>j</sub> [D' D [XP bedenktijd [X' X<sup>o</sup> t<sub>j</sub>]]]]

To conclude this section, I would like to draw your attention to the parallelism between the abstract pattern, on the one hand, and the *wat voor N*-construction, on the other hand. As we saw in section 3, both types of nominal constructions allow extraction of a constituent from within the larger noun phrase. For the abstract pattern, I have just argued that a quantity denoting predicate leaves the noun phrase via Spec,DP. In Bennis, Corver & Den Dikken (1998), it is proposed that the *wat voor N*-construction is also an example of DP-internal A'-movement of a nominal predicate. In this construction, however, the predicate, *wat*, has a qualitative interpretation ('what kind of'); furthermore it has interrogative force.<sup>20</sup> In their analysis, the element *wat* originates as a predicate in a DP-internal Small Clause structure and is moved to Spec,DP by means of predicate displacement of the A'-type (see (56)). From that position, the interrogative predicate can leave the noun phrase, yielding a discontinuous pattern; see (57):

- (56) [DP wat<sub>i</sub> [D' [D VOOR] [XP [NP jongens] [X' [X ø] t<sub>i</sub>]]]]

- (57) [CP Wat<sub>i</sub> [C' heb<sub>j</sub> [IP je [DP t'<sub>i</sub> [D' [D VOOR] [XP [NP jongens] [X' [X ø] t<sub>i</sub>]]]]] ontmoet t<sub>j</sub>]]]?  
 'What have you for boys met?'  
 'What kind of boys did you meet?'

## 8. Twee dagen de tijd (two days the time)

In this section, I will briefly discuss one construction type which is closely related to the abstract pattern. The construction at issue is given in (58).

- (58) Ik geef je [twee dagen (de) tijd] om dit op te lossen  
 I give you two days (the) time for this PRT to solve  
 'I give you two days to solve this'

Also in this case, the predication relation between the two nominals is obvious: "(The) time is two days". The constituent *twee dagen* predicates over the subject *tijd*. And just like in the abstract pattern, it is possible to move the measure phrase out of the complex noun phrase:

- (59) [*Hoeveel dagen*]<sub>i</sub> denk je dat Jan [t<sub>i</sub> de tijd] zal krijgen?  
 How-many days think you that Jan the time will get

<sup>20</sup> The element *wat* also functions as an interrogative predicate nominal in the clausal domain; e.g. *Wat is Jan uiteindelijk geworden?* (What has Jan eventually become); *Wat is hij vroeger geweest?* (What has he formerly been).

Besides the subextraction pattern it is also possible to move along (i.e. pied pipe) the rest of the noun phrase:

(60) [*Hoeveel dagen de tijd*]<sub>i</sub> denk je dat Jan t<sub>i</sub> zal krijgen?

The fact that the string *hoeveel dagen de tijd* in (60) can be fronted shows that it forms a constituent. Its constituency is also shown by the pronominalization test: the sequence *twee dagen de tijd* can be replaced by the demonstrative pronoun *dat* (see (61)).

- (61) a. \*Jan kreeg twee dagen de tijd en Marie kreeg dat vier dagen  
 Jan got two days the time and Marie got that four days  
 b. Jan kreeg twee dagen de tijd en Marie kreeg dat ook  
 Jan got two days the time and Marie dot that too

The nice thing about the nominal construction *twee dagen (de) tijd* is that it clearly shows the left peripheral placement of the displaced predicate nominal. The measure phrase precedes the definite article *de*. So, the only logical landing site for the moved predicate is Spec,DP (an A'-position, on analogy with Spec,CP). The structure of the noun phrase after DP-internal displacement of the measure phrase is now as follows:

(62) [<sub>DP</sub> twee dagen<sub>i</sub>/hoeveel dagen<sub>i</sub> [<sub>D'</sub> de [<sub>XP</sub> tijd [<sub>X'</sub> [<sub>X</sub>  $\emptyset$ ] t<sub>i</sub>]]]]

Just like other constituents that have undergone DP-internal A'-movement (see e.g. the measure constituents of the abstract pattern and the *wat voor N*-construction), the measure phrase can leave the DP and move into Spec,CP.

(63) [<sub>CP</sub> [hoeveel dagen]<sub>i</sub> [<sub>C'</sub> zal<sub>j</sub> [<sub>IP</sub> ik ze [<sub>DP</sub> t'<sub>i</sub> [<sub>D'</sub> de [<sub>XP</sub> tijd [<sub>X'</sub> X<sup>0</sup> t<sub>i</sub>]]]]] geven t<sub>j</sub>]]]  
 How-many days shall I them the time give

Another property which this construction has in common with the abstract pattern concerns the placement of the approximative phrase *of + Numeral*. Similarly to what we saw for the abstract pattern, the approximative phrase must precede N2 (*tijd*) and cannot follow N2:

- (64) a. Geef 'm [een dag *of twee* de tijd]  
 Give him a day or two the time  
 b. \*Geef 'm [een dag de tijd *of twee*]

## 9. Aspects of variation

Thus far, I have argued on the basis of Dutch that the difference between the abstract pattern (e.g. *drie meter zijde*, three meter silk) and the concrete pattern (e.g. *drie dagen vakantie*, three days vacation) resides in the phenomenon of predicate displacement: the concrete pattern features predicate movement of the head-movement type, whereas the abstract pattern features predicate movement of the A'-movement type; i.e. a predicative XP is moved to Spec,DP (from where it may leave the DP). A question which might be raised is: Why does the abstract pattern feature predicate movement of the A'-type and the abstract pattern predicate movement of the head movement type?

Let me first point out that there is no necessary connection between “type of pattern” (i.e. abstract versus concrete) on the one hand and the “type of predicate displacement operation” on the other. As shown by the following examples from Hebrew, the abstract pattern may be realized as a Construct State construction (cf. (65a)) – featuring head movement (i.e. N-raising) of *yemey* – and as an apposition pattern (cf. 65b)) – featuring

phrasal movement. It further permits the construction in which the nominal copula *šel* occurs in between the inverted predicate and the DP-internal subject (cf. (65c)):<sup>21</sup>

- (65) a. shisha yemey tiyul (Construct State construction)  
 six days touring  
 ‘six days’ touring’  
 b. shisha yamim tiyul (apposition construction)  
 six days touring  
 ‘six days’ touring’  
 c. shisha yamim šel tiyul (š*el* construction)  
 six days of touring  
 ‘six days’ touring’

As shown by these examples, Modern Hebrew permits a greater variety of realizations of the abstract pattern than Dutch. As a matter of fact, the variety of realizations is the same as the one found for the concrete pattern (cf. (47)).

As expected, the approximative expression “or + NUM” can only intervene between N1 and N2 when N1 has the free form (sha’a; ‘hour’). When N1 has the Construct State form, the approximative expression must follow N2:

- (66) a. she’at tiyul o shtayim  
 hour(CS) touring or two  
 ‘a tour of an hour or two’  
 b. \*she’at o shtayim tiyul  
 hour(CS) or two touring  
 (67) a. sha’a o shtayim tiyul  
 hour(FS) or two tour  
 ‘a tour of an hour or two’  
 b. ?sha’a tiyul o shtayim  
 hour(FS) trip or two

Thus, the Hebrew examples show that there is no intrinsic relationship between the abstract pattern and the formal analysis of N1 as a displaced predicate nominal of the phrasal type. As shown by the Construct State construction (66), N1 can also be a nominal head (i.e. N<sup>0</sup>). As argued by standard analyses of this construction type, this raised noun (*she’at*) assigns genitive case to the nominal expression to its immediate right (*tiyul*).

Interestingly, examples like (68), which are drawn from older Dutch texts (around 1920), also exhibit a genitival case on the second noun (cf. Gerlach Royen 1948). This example is very similar to the concrete pattern in (53b), in the sense that the second noun carries genitival case (-s). The example in (53b) was analyzed as follows: After N-raising of *lepel* across the nominal *honichs*, which is analyzed as the DP-internal Small Clause subject, *lepel* assigns genitival case to the nominal element to its immediate right (See (52a) for the corresponding derived representation). It is plausible that the structures in (68) receive the same structural analysis, with N1 assigning genitival case to N2. What this shows is that in older stages of Dutch, the abstract pattern could also be realized as a structure featuring predicate displacement of the head-movement type. In the course of time, Dutch seems to have lost this N-raising analysis for the abstract pattern.

<sup>21</sup> The numeral in (65a) may also take the Construct State form: *Shney yemey tiyul*. Besides the patterns in (65), Hebrew also has the following construction type: *tiyul šel shisha yamim* (touring of six days; ‘a tour of six days’). In Dutch, this nominal construction is also found: *een voorsprong van 6 minuten* (a headstart of six minutes). Notice that in this construction type, the order of the two nominals is the reverse of the one found in the abstract pattern *6 minuten voorsprong* (6 minutes headstart).

- (68) a. [Op [een schot afstand<sub>s</sub>]] aan gene zijden van de poelen  
 At a shot distance-*s* on those sides of the pools  
 ‘At a shot’s distance on the other sides of the pools’  
 b. [Binnen [drie weken tijds]] heeft Cor Kint dus drie wereldrecords op den  
 In three weeks time-*s* has Cor Kint thus three world records on the  
 rugslag op haar naam gebracht  
 back stroke to her name brought  
 ‘Within three weeks, Cor Kint has won three world records on the back stroke’  
 c. [Op [eenige boogschoten afstand<sub>s</sub>]]  
 [At [some bow shots distance-*s*]]  
 ‘At a distance of some bow-shots’

Interestingly, Gerlach Royen (1948; page 17) also gives the following Dutch examples drawn from texts from around 1920.

- (69) a. Op een kanonschotsafstand van de plaats  
 At a gunshot-*s*-distance of the place  
 ‘Within gun-range’  
 b. Op een musketschotsafstand van de brug  
 At a musketshot-*s*-distance of the bridge  
 ‘Within the range of a musket’

The examples in (69) look quite similar to the one in (68a). A crucial difference is that in (68a), it is the N2 which carries the bound morpheme *-s*, whereas in (69) this morpheme seems to go with N1 (i.e. *kanonschot-s*). The orthography suggests that the sequence *N1 -s N2* forms a compound-like structure (i.e. a word-structure); that is, it is written as one word. But as we know that orthography can be quite misleading sometimes, the structure may very well be more syntactic; for example:

- (70) [[kanonschot] -s [afstand]]

And when we realize that the meaning relation between *afstand* and *kanonschot* is one of predication (i.e. “distance is a gunshot”), we may come to an analysis in terms of phrasal predicate displacement (of the A-movement type):

- (71) [<sub>DP</sub> een [<sub>FP</sub> kanonschot<sub>i</sub> [<sub>F</sub> F+X<sub>j</sub> (= -s) [<sub>XP</sub> afstand [<sub>X'</sub> t<sub>j</sub> t<sub>i</sub>]]]]]

The bound morpheme *-s* in (71) is not interpreted as a genitival case suffix. It is rather interpreted as an instantiation of the nominal copula which shows up in DP-internal predicate inversion contexts as a result of incorporation of the DP-internal small clause head *X* into the higher functional head *F*.<sup>22</sup> Thus, two (overt) nominal copulas can be distinguished: (i) the preposition-like copula *van* (‘of’) which shows up in the *N van/of N*-construction (cf. section 6.1); (ii) the bound morpheme *-s*.

In present-day Dutch, the abstract pattern *N1 -s N2* is no longer productive. The abstract pattern in present-day Dutch typically consists of two juxtaposed nominals (as was illustrated throughout this article). The absence of a copular element suggests that no head

22 The idea that *-s* should be interpreted as a nominal copula rather than a genitival case suffix was first proposed by Den Dikken (1995, 1998). He argues that a string like *John’s car* has the derived structure in (i): PP is the inverted prepositional predicate, *car* is the Small Clause subject, and *-s* is the spell out of the nominal copula.

(i) [<sub>DP</sub> D [<sub>FP</sub> [<sub>PP</sub> t<sub>k</sub> John]<sub>i</sub> [<sub>F</sub> F+X<sub>j</sub>+P<sub>k</sub> (= s) [<sub>XP</sub> car [<sub>X'</sub> t<sub>j</sub> t<sub>i</sub>]]]]]

movement of a Small Clause head X to a higher functional head F is involved in the derivation of these constructions. Recall from section 6.1. that X-to-F movement is needed for creating a structural environment in which the A-moved predicate nominal is as far away (i.e. equidistant) from the extraction site as the Small Clause subject. That is, the displaced predicate and the Small Clause subject should be members of the same Minimal Domain (Chomsky 1993). From the absence of a copular element, it may be concluded that in the Dutch abstract pattern, predicate displacement is of the A'-movement type; i.e. movement to [Spec,DP]. This was also the outcome of our discussion in section 7 on the basis of the property of subextraction: the quantity denoting predicate can be removed from within the noun phrase. Under the general view that elements can leave the noun phrase only via its left edge (i.e. [Spec,DP]), the conclusion seems inescapable that the quantity denoting predicate of the abstract pattern occupies [Spec,DP] after DP-internal predicate displacement has applied.

The idea that *-s* and *van* are both instantiations of the nominal copula receives indirect support from English. As shown by the following examples drawn from Poutsma (1928), English has both the abstract pattern *NI (=MeasurePhrase) + -s + N* (cf. (72)) and the abstract pattern *NI (=MeasurePhrase) + of + N* (cf. (73)).<sup>23</sup>

- (72) a. During [my month's holiday] she was particularly pleased with me  
 b. The walk was a solitary walk, ...but [a minute or two's distance] from his lodgings  
 c. It's [half an hour's walk] from the station]  
 d. In [a week or two's time] he had changed into a werewolf
- (73) a. She begged for [an extra week of holiday]  
 b. That would have spared me [eight years of misery]  
 c. Still it was something to be out in the open air, to get [a few minutes of leisure]  
 d. This happened in [a minute of time]

As shown by the examples in (74) and (75), *of* and *-s* are in complementary distribution. This complementary distribution suggests that these two elements compete for the same structural slot.<sup>24,25</sup> Or, more precisely, the nominal copulas *of* and *-s* both try to spell out the same complex head, viz. [F+X]. Simultaneous spell out is, obviously, impossible.

- (74) a. He begged for [a week *of* vacation]  
 b. He begged for [a week's vacation]  
 c. \*He begged for [a week's *of* vacation]
- (75) a. During [a month's holiday] you can't do much  
 b. During [a month *of* holiday] you can't do much  
 c. \*During [a month's *of* holiday] you can't do much

<sup>23</sup> As shown by (72b), the approximative expression *or + NUM* can intervene between N1 and N2. This shows that the displaced predicate is of the phrasal type.

<sup>24</sup> Measure phrases also occur as left members in compounds, as in *I gave John [a [one minute] headstart]*.

<sup>25</sup> The pattern in (73), featuring the nominal copula *of*, is also possible in certain nominal constructions of Dutch. Consider, for example, the following examples:

- (i) a. [na [drie dagen rust]]  
 after three days rest  
 b. [na [drie dagen *van* rust]]
- (ii) a. [na [drie dagen intensieve inspanning]]  
 after three days intensive exertion  
 b. [na [drie dagen *van* intensieve inspanning]]

From the above discussion it is clear that languages differ in the way the abstract pattern is formally expressed. A language like Modern Hebrew has three ways of expressing the abstract pattern, viz. by means of a Construct State construction, an apposition construction, and the construction featuring *šel* (cf. (65)). Furthermore, these morphosyntactic realizations are also found for the concrete pattern (cf. (47)). Present-day Dutch, on the contrary, is less rich in its ways of expressing the abstract pattern. Furthermore, as opposed to Modern Hebrew, the Dutch abstract pattern has a different structural representation than the concrete pattern (event though they look alike superficially).

Of course, this issue about the cross-linguistic and cross-constructural variation (i.e. abstract pattern versus concrete one) in contexts of DP-internal predicate displacement deserves more in-depth research. As far as I can see now, two important dimensions along which variation is found are: (i) the case licensing of the two nominals in these constructions; (ii) the spell-out of the nominal copula. As for the former: the Construct State construction permits (rightward) assignment of genitive case by the raised noun (with or without overt spell-out). In Modern Hebrew, both  $N_{\langle\text{concrete}\rangle}$  and  $N_{\langle\text{abstract}\rangle}$  have this possibility of assigning genitive case to the following nominal element. In present-day Dutch, only  $N_{\langle\text{concrete}\rangle}$  can assign genitive case (without morphological spell-out), as in *een fles wijn<sub>GEN</sub>* (a bottle wine+GEN). In older stages of Dutch, this abstract genitive case was spelled out as *-s* (cf. (53b)). In those cases in which N2 is not assigned genitive case, the DP-internal Small Clause subject receives its case under agreement with the inverted predicate nominal. That is the two nominal elements share the case feature that is assigned to the containing DP. In those case agreement contexts, variation may reside in the spell out of the nominal copula (i.e. the preposition-like element *van/of/šel* versus the bound morpheme *-s*).<sup>26</sup> Modern Hebrew only permits the insertion of the preposition-like element *šel* and has no bound morphemic copular element. Insertion of *šel* is permitted in both the abstract pattern and the concrete pattern. In English, the abstract pattern and the concrete one differ in the way the nominal copula is spelled out: The concrete pattern only permits spell out by means of *of* (*a bottle of wine* versus *\*a bottle's wine*). The abstract pattern, on the other hand, typically takes the bound morpheme *-s* (cf. (72)) but also permits insertion of *of* (cf. (73)). The fact that the concrete pattern does not permit spell out of the nominal copula as *-s* suggests that it is context sensitive: The complex head [F+X] only spells out as *-s*, if N2 is  $\langle +\text{abstract} \rangle$ . In the Dutch sequence  $N1 N2_{\langle\text{abstract}\rangle}$ , there is no morphological spell out of any nominal copula. This is due to the fact that the predicate nominal has undergone direct movement to [Spec,DP]; i.e. predicate displacement is of the A'-bar movement type rather than the A-movement type. In such cases, domain extending X-to-F movement is not needed in order to render the displaced predicate nominal and the Small Clause subject equidistant from the extraction site; this for the reason that a phrase in an A-position does not count as a potential intervener for a higher phrase in an A'-position.

## 9. Concluding remarks

I started this paper with the well-known minimal pair noted by Chomsky in *Current Issues: John is easy to please* and *John is eager to please*. Chomsky rightly points out that, although

<sup>26</sup> As shown by (ia) from German (taken from Aarts 1994), the nominal copula *von* does not necessarily interfere in the case agreement relationship between the predicate nominal (*alter Schelm*) and the SC-subject (*Lohnbedienter*). As shown by the adapted example (ib), *von* can entertain a Case relationship with the SC-subject (see also Den Dikken 1998).

- |     |    |   |                       |
|-----|----|---|-----------------------|
| (i) | a. | ein alter Schelm von Lohnbedienter<br>an old villain of a waged servant-NOM       | (from Heinrich Heine) |
|     | b. | ein alter Schelm von einem Lohnbedienten<br>an old villain of a waged servant-DAT |                       |

superficially very similar, these sentences should be assigned different structural analyses. Something similar we noted for the Dutch nominal domain: although the concrete pattern and the abstract pattern are superficially the same, it turns out on closer inspection that the two nominal constructions should be assigned different structural descriptions. More in particular, the difference between the two constructions resides in the phenomenon of predicate displacement: the concrete pattern features predicate movement of the head-movement type, whereas the abstract pattern features predicate movement of the A'-movement type; i.e. a predicative XP is moved to Spec,DP. Besides these two types of predicate movement, I briefly discussed the so-called *N van een N*-construction, which arguably is characterized by the application of predicate displacement of the A-movement type. Thus, the movement typology well-known from the clausal domain — A-movement, A'-movement and head movement — is also attested in the nominal domain. This again strengthens the view that the clausal domain and the nominal domain have much in common. Although there seem to be good reasons for distinguishing these three types of movement within the nominal domain, it is clear that several issues at the level of cross-linguistic and cross-constructural variation are in need of more detailed investigation.

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