

On the Structure of the Scandinavian DP*

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Adjectives in definite Scandinavian DPs trigger an additional lexical determiner ('*double definiteness*'). In a number of cases, one of the determiners is obsolete, and in some of these cases, different readings are obtained. The following questions arise: what is the function of this doubling pattern of determiners? Is there a semantic correlate? And what does this tell us about the structure of the DP? The presence or absence of weak adjectival inflection can also yield different readings, i.e. inflection interacts with interpretation. In the following I will show that multiple exponence in Scandinavian DPs contributes to interpretation. Furthermore I suggest that the notion of definiteness in Scandinavian DPs is made up of three aspects: *discourse reference*, *specific reference*, and *identity*. These aspects are expressed by three distinct morphemes: the preadjectival article, the suffixed article, and the adjectival inflection respectively.

1. Background

1.1 Double Definiteness

- (1) a. film-en
film-DEF
'the film'
b. den rolig-a film-en
DEF funny-w film-DEF
'the funny film' (Swedish)

In the noun phrase in (1a), the definite article is attached to the noun. When a definite noun phrase is modified by an adjective (1b), a second determiner is introduced preceding the adjective.

Double definiteness is not restricted to the Scandinavian languages. It is also found, for example, in Greek (*'Determiner Spreading'*), where it is optional and restricted with respect to the type of adjectives it occurs with (2), and in post-nominal French superlative constructions (3).

- (2) to vivlio *(to) kokino
DEF book DEF red (Alexiadou 2006)

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- (3) la maison la plus belle
DEF house DEF most beautiful (Kayne 2004)

As opposed to Greek and French, double definiteness in Scandinavian is obligatory.

2. Basic Data

2.1 Swedish, Norwegian, and Faroese

Standard Swedish, Norwegian and Faroese very much pattern alike with regard to double definiteness.

- (4) a. bil-en
car-DEF
'the car'
b. den ny-a bil-en
DEF new-W car-DEF
'the new car' (Swedish)

In non-modified DPs, the definite article is attached to the noun (4a). A second article appears when an attributive adjective modifies the DP (4b). The adjective is marked with the so-called weak inflection. This type of double definiteness is the default structure, irrespective of the type of adjective. The preadjectival article is triggered only once, further adjectives do not trigger additional determiners.

2.2 Danish and Icelandic

- (5) a. hus-et
house-DEF (Danish)
b. hús-ið
house-DEF (Icelandic)
'the house'
- (6) a. det store hus
DEF big-W house (Danish)
b. gamla hús-ið
old-W house-DEF (Icelandic)
'the old house'

Neither Danish nor Icelandic show structures involving double definiteness. The article in non-modified definite DPs is attached to the noun (5) – as in the other Scandinavian languages. With respect to adjectival modification, the

languages differ: in Danish (6a), a separate article is introduced preceding the noun and the suffixed article is omitted. In Icelandic, the suffixed article is retained and no further article is introduced (6b), i.e. in both languages, the suffixed and the preadjectival article occur in complementary distribution.

3. Optionality or Elimination of One of the Articles

In order to gain a better understanding of the function of the respective article, those cases are of interest in which either the preadjectival article or the suffixed article is optional or even obsolete. If double definiteness is not a mere agreement phenomenon but is of interpretive value, then a difference in meaning is predicted for DPs that do not exhibit the default structure. This prediction is borne out, as the following sections show.

3.1 The Suffixed Article

- (7) a. Han er en lærer av den gaml-e skole(-n).
he is a teacher of DEF.SG old-w school-DEF
'He is a teacher of the old school.'
- b. Vi så på den gaml-e skole*(-n)
we saw at DEF.SG old-w school-DEF
'We looked at the old school.' (Norwegian, Julien 2005)

If the suffixed article is omitted (optional in Norwegian, obligatory in Swedish), the result is an abstract reading (7a). Here, reference is not made to a particular school but to a teacher who is one of the old school, for example in his way of teaching. However, if the intention is to refer to a particular building, i.e. if a concrete reading is intended, then the suffixed article is obligatory (7b). A similar contrast is shown in (8):

- (8) a. Dei oppfører seg som dei verst-e bøll-ar
they behave 3REFL as DEF.PL worst-w brute-PL
- b. Dei oppfører seg som dei verst-e bøll-a-ne
they behave 3REFL as DEF.PL worst-w brute-PL-DEF
'They behave like the worst brutes' (Norwegian, Julien 2005)

In the example without the suffixed article (8a), the reading is non-referential, that is, the speaker does not know who those people are. In (8b), on the other hand, where the suffixed article is present, the speaker refers to specific people and a referential reading is obtained.

3.2 The Preadjectival Article

- (9) a. Du kan ta den ny-e bil-en.
you can take DEF.SG new-W car-DEF.M.SG
b. Du kan ta ny-e bil-en.
you can take new-w car-DEF.M.SG
‘You can take the new car.’ (Norwegian, Julien 2005)

Julien (2005) notes that even if the referent of the DP in (9a) has not been mentioned before, it is clear that there must be “a new car in the universe of discourse” (Julien 2005:33). By contrast, the structure without the preadjectival article (9b) is used if the referent is very familiar, that is to say, if the people involved in the discourse already know about the new car. The co-ordination of two DPs also suggests that the preadjectival article is of interpretive value.

- (10) a. den talentfulle akademiker-n og den dyktige administrator-n
DEF talented academic-DEF and DEF accomplished administrator-DEF
‘the talented academic and the accomplished administrator’
b. den talentfulle akademiker-n og dyktige administrator-n
DEF talented academic-DEF and accomplished administrator-DEF
‘the talented academic and accomplished administrator’
(Norwegian, Anderssen 2006)

In (10a) each co-ordinate has a preadjectival article, in (10b) only the first one. (10a) is ambiguous with respect to the number of people – one or two –, while (10b) is unambiguous, only one person is referred to.

4. Adjectival Inflection

In Standard Scandinavian, adjectives are inflected. Attributive adjectives show weak (w) or strong (s) inflection, the form of which is determined by semantic aspects: the weak form is chosen if the modified DP is definite, the strong form if the DP is indefinite.

- (11) a. den grön-a bil-en
DEF green-w car-DEF
‘the green car’
b. en grön-ø bil
a green-s car
‘a green car’ (Swedish)

4.1 Variation

The above example shows the basic rule for adjectival inflection. However, if dialectal variation is taken into account, the phenomenon becomes much more complex. In some dialects, for instance, adjectival inflection is redundant, if the attributive adjective is incorporated (12). Incorporation is usually optional and when it is not chosen, the adjectival ending is present¹.

- (12) a. sist-gång-a
last-time-DEF
b. sist-e gång-a
last-w time-DEF
'the last time' (Northern Swedish, Delsing 1993:122)

Further deviations from adjectival inflection in Standard Scandinavian (Vangsnes 2007):

- i) Southwestnorwegian dialects show a richer inflectional paradigm
- ii) Dialects without overt marking in the plural
- iii) Dialects without any weak-strong distinction
- iv) In Icelandic, strong adjectival inflection can be combined with definite contexts to achieve non-restrictive readings.

This variation in the realization of adjectival inflection leads to questions regarding the meaning and function of adjectival inflection, even more so if it is considered that adjectival inflection can interact with meaning. For instance, see iv) above for a difference between restrictive and non-restrictive reading and (13) for a difference in presupposition.

- (13) a. Legg hvert unmodent eple i denne kassen.
put every unripe-s apple in this box-DEF
'Put every unripe apple in this box'
b. Legg hvert unmodne eple i denne kassen.
put every unripe-w apple in this box-DEF
'Put each unripe apple in this box' (Norwegian, Vangsnes 2007)

The pronoun *hvert* 'each, every' is compatible with weak or strong adjectival inflection. If the weak ending is chosen (13b), a presuppositional reading is obtained, i.e. there is at least one unripe apple. (13a) on the other hand, is not presuppositional.

¹ Note that these dialects nevertheless do not make use of double definiteness, i.e. adjectives do not trigger an additional determiner.

5. The Semantics of the Articles and the Adjectival Inflection

5.1 The Suffixed Article

Julien (2005) suggests that the semantic content of the suffixed article is *specificity*: the suffixed article can be omitted, if a non-specific reading is intended and a specific reading is only possible, if the suffixed article is spelled out. I agree with Julien in large parts but consider the term *specificity* somewhat problematic² and suggest extending the term to *specific reference*. Thus including that the denotation of N+DEF yields a referential reading and that it is identifiable and locatable for the hearer.

(14) THE SUFFIXED ARTICLE brings about *specific reference*.

Example (8), repeated here as (15), illustrates this point: in the example without the suffixed article (15a), the reading is non-referential, whereas in (15b), the speaker refers to particular people and a referential reading is obtained.

- (15) a. Dei oppfører seg som dei verst-e bøll-ar
 they behave 3REFL as DEF.PL worst-w brute-PL
 b. Dei oppfører seg som dei verst-e bøll-a-ne
 they behave 3REFL as DEF.PL worst-w brute-PL-DEF
 ‘They behave like the worst brutes’ (Norwegian, Julien 2005)

This observation is supported by restrictive relative clauses. Here, too, the suffixed article is redundant.

- (16) De turist-er som åkte till Island fick mycket sol.
 DEM tourist-PL who drove to Island got a lot of sun.
 ‘The tourists who went to Iceland got a lot of sun.’
 (17) De turist-er-na fick mycket sol.
 DEM tourist-PL-DEF got a lot of sun.
 ‘The tourists got a lot of sun.’ (Swedish, Holmes & Hinchliffe 2003:146)

In example (16), the suffixed article is omitted and the independent item *de* is introduced preceding the noun. This independent morpheme is commonly called *determinative pronoun* (Holmes & Hinchliffe 2003:146). Since the determinative is always stressed unless it is followed by an adjective I assume that it functions like a demonstrative and that in the case of adjectival modification the preadjectival article is triggered rather than the determinative kept. As opposed to the default use of demonstratives (17), the relative structure in (16) does not

² Indefinite DPs can also be specific (‘I’ve bought a book’).

require the definite article. Since restrictive relative clauses limit and specify the denotation of N and always yield concrete readings (cf. 3.1), the suffixed article is superfluous.

5.2 The Preadjectival Article

The share the preadjectival article has in the notion of definiteness is commonly called *inclusiveness* (cf. Hawkins 1978, Lyons 1999, Julien 2005). This term was introduced by Hawkins (1978) to express *uniqueness* of plurality, that is, to include mass and plural nouns because uniqueness implies singularity. Inclusiveness assimilates uniqueness and is meant to express reference “to the totality of the entities that satisfy the description” (Lyons 1999:11). As the examples in section 3.2 show, this definition does not cover the function of the preadjectival article, thus I suggest replacing it by (18).

(18) THE PREADJECTIVAL ARTICLE introduces a *discourse referent* that contains a new *discourse variable*.

In other words, what the preadjectival article does is signal that a new modified definite N is entering the discourse. Thus the preadjectival article does contribute to the interpretation of a DP as definite – even if very little³. Example (10), repeated as (19), shows that the preadjectival article introduces a new discourse variable.

- (19) a. den talentfulle akademiker-n og den dyktige administrator-n
DEF talented academic-DEF and DEF accomplished administrator-DEF
‘the talented academic and the accomplished administrator’
b. den talentfulle akademiker-n og dyktige administrator-n
DEF talented academic-DEF and accomplished administrator-DEF
‘the talented academic and accomplished administrator’
(Norwegian, Anderssen 2006)

(19a) can be understood as referring to two people – this is the favoured reading – or it can refer to only one person, whereas (19b) unambiguously refers to one person only. This suggests that the preadjectival article introduces a new, modified *discourse variable*⁴. If (19a) is understood as referring to one person, the context makes clear that the *specific reference* of N denotes the same entity. Example (9), repeated as (20), supports this view: since the new car in (20b) is a

³ Could this be the reason why, for example, Icelandic lost double definiteness? Furthermore, could this also explain why the preadjectival article was introduced in the first place, as a kind of emphasising factor (a kind of *cycle of definiteness* comparable to Jespersen’s *cycle of negation*?)

⁴ Note that there is no change in the role of the suffixed article – its function is independent of the presence of the preadjectival article.

familiar entity for those involved in the discourse (cf. section 3.2), there is no need to introduce it as a new discourse variable.

- (20) a. Du kan ta den ny-e bil-en.
 you can take DEF.SG new-W car-DEF.M.SG
 b. Du kan ta ny-e bil-en.
 you can take new-W car-DEF.M.SG
 ‘You can take the new car.’ (Norwegian, Julien 2005)

5.3 The Adjectival Inflection

The two sentences in (21) are identical apart from the adjectival inflection. (21a) shows the strong ending, (21b) the weak one, however, the meaning differs: (21a) is not presuppositional so that it is not clear whether there are any unripe apples at all, whereas in (21b) the reading is presuppositional, i.e. there is at least one unripe apple. The presuppositional reading is rendered by the weak adjectival ending. This suggests that the weak adjectival inflection identifies the relevant members in the A+N denotation.

- (21) a. Legg hvert unmodent eple i denne kassen.
 put every unripe-S apple in this box-DEF
 ‘Put every unripe apple in this box’
 b. Legg hvert umodne eple i denne kassen.
 put every unripe-W apple in this box-DEF
 ‘Put each unripe apple in this box’ (Norwegian, Vangsnæs 2007)

If it is correct that the weak adjectival ending states the existence of the A+N denotation, then we should not find this ending if the existence of the modified noun is stated otherwise. The adjective *egen* might be such a case.

- (22) a. den egn-a torv-an
 DEF own-W garden-DEF
 ‘one’s own garden’
 b. hans egen-ø hemlighet
 his own-S secret
 ‘his (own) secret’
 c. hans egn-a uppträdande
 his peculiar-W behaviour
 ‘his peculiar behaviour’ (Swedish, Holmes & Hinchliffe 2003)

(22a) displays the default structure: double definiteness plus weak adjectival inflection. In (22b), *egen* follows a possessive and shows strong inflection, although the context is definite. If, on the other hand, *egen* is used after the possessive but carries the weak adjectival ending (22c), the meaning changes.

Two possible explanations⁵: *egen* in (22b) functions as a kind of reflexive and in fact is not inflected at all. If this is correct, the question arises why there is a difference in meaning between (22a) and (22c). Or else *egen* in (22b) does carry strong inflection, but then the question arises why. A possible account could be that the combination of possessive plus *egen* presupposes the existence of the A+N denotation. This would support the following hypothesis.

- (23) THE WEAK ADJECTIVAL INFLECTION seems to identify the member(s) in the A+N denotation.

If this is the case, the question arises why the weak adjectival ending occurs in structures such as *Vita huset* ‘The White House’? The preadjectival article is omitted, the weak adjectival ending and the suffixed article are present. Constructions like *Vita huset* function like compound nouns of the blackbird-type in English, as the change in stress from *vita* to *huset* indicates.

(24) det VITA huset	the white HOUSE	(the house is white)
	the black BIRD	(the bird is black)
Vita Huset	the WHITE House	(the White House)
	the BLACKbird	(a particular kind of bird)

This suggests that structures of the *Vita huset*-kind can be viewed as proper nouns. Following the analysis above, there actually is no reason for the adjectival inflection to be present. However, proper nouns do not normally take the suffixed article either (**Alexander-n*, ‘**the Alexander*’), but the suffixed article is present in structures of the *Vita huset*-kind. Thus I assume that – opposed to the structures discussed above – neither the adjectival ending nor the suffixed article are of semantic import in this case but that structures of the *Vita huset*-kind form complex proper nouns.

6. Towards an Analysis

6.1 Theoretical Framework

Adjectival inflection in Scandinavian comprises five different endings (two weak endings, three strong ones). Depending on the context (almost) every adjective can occur with either the weak or the strong ending. If it is assumed that the ending has a particular function, and if it is further assumed that lexical items are not ‘stored’ as complex heads⁶, the most economical strategy would be to regard both the ending and the stem as independent items that are inserted depending on

⁵ This conclusion probably requires further qualification. I will address this issue in future research.

⁶ This would be very uneconomical: for every adjective, three forms would have to be accessible: SING strong, SING weak, PLU strong/weak

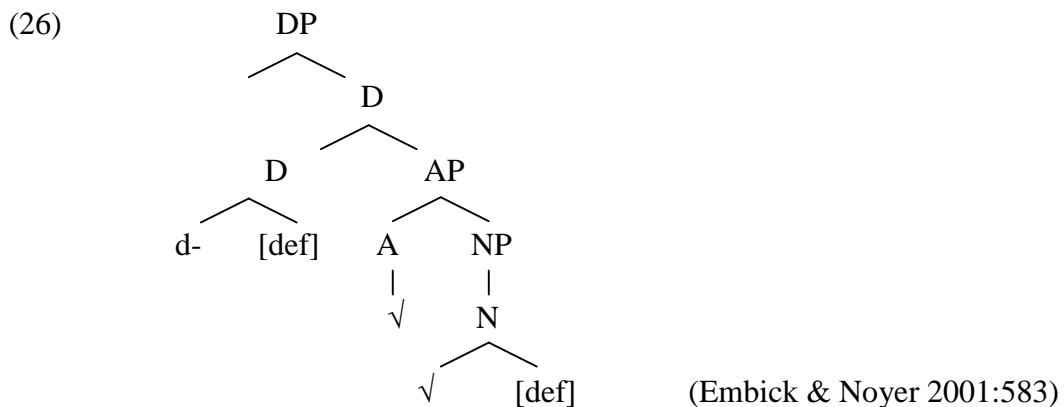
their morphosyntactic features. This is why I adopt the framework of Distributed Morphology⁷ (DM). There have been attempts to account for the structure of Scandinavian DPs in the framework of Distributed Morphology. A relatively recent account is the one by Embick & Noyer (2001).

6.2 Embick & Noyer's (2001) Analysis of Scandinavian DPs

Embick & Noyer (2001) claim that DPs in Swedish “always” (E&N 2001:581) show marking for definiteness, and therefore two requirements have to be met to get well-formed results.

- (25) a. The head N must be marked with definiteness when D is [def].
 b. D_[def] must have a host. (Embick & Noyer 2001:581)

Both requirements are imposed at PF, i.e. in Morphology. For non-modified DPs Embick & Noyer assume that N moves to D in syntax and thus meets both requirements: N is marked [def] and N is the host of D_[def]. If an adjective intervenes, N cannot move to D and further PF processes must apply to meet the requirements in (25): a *dissociated morpheme* is assigned to N. Dissociated morphemes are purely morphological material, they are not syntactic projections and they are not interpreted at LF. “Because of the existence of requirement [25a.] in Swedish morphology, we find the doubling of a head that is relevant to LF interpretation; but there is no doubling at the syntacticosemantic level, because the feature [def] is only copied in PF” (E&N 2001:583). In other words: the [def] feature is copied in PF and is not interpreted at LF. The feature that is interpreted at LF is the [def] feature on D.



Since Swedish morphology requires a host for [def] on D, dummy *d-* is inserted. With respect to variation Embick & Noyer (2001) argue that the

⁷ “The jobs assigned to the Lexicon component in earlier theories are *distributed* through various other components.” (Harley & Noyer 1999:3)

differences between the Scandinavian languages do not lie in syntax but in the requirements for well-formedness at the level of PF: Danish, for instance, does not require the type of agreement that results in the doubling of [def] in Swedish, hence there is no double definiteness in Danish.

There are several problems with this analysis. First of all, Embick & Noyer's claim that the head N must be marked for definiteness. As shown in 3.1, this is not the case. Besides, the omission of the suffixed article cannot be seen as an exception but rather follows regular patterns: if no specific reference is intended, the suffixed article is not obligatory.

In Embick & Noyer's (2001) account, the [def]-feature is copied and assigned to N because the noun cannot raise to D if an adjective intervenes. The question arises what it is that prevents the [def] feature from being copied in a modified definite DP in those cases where the suffixed article is not present. Especially since this feature is not interpreted at LF. According to Embick & Noyer (2001), the examples in section 5.1 should be ungrammatical: if there are two [def]-features in PF but only one at LF, wrong results are predicted since it does not seem to matter whether a phrase consists of two realizations of the [def]-feature or of one. This also implies that the content of the preadjectival article and the suffixed article is identical. Example (8), repeated here as (27), clearly shows that this is not the case, not only are both sentences grammatical, they also differ in meaning.

- (27) a. Dei oppfører seg som dei verst-e bøll-ar
they behave 3REFL as DEF worst-w brute-PL
b. Dei oppfører seg som dei verst-e bøll-a-ne
they behave 3REFL as DEF worst-w brute-PL-DEF
'They behave like the worst brutes' (Norwegian, Julien 2005)

A further problematic point in their analysis is the part in which Embick & Noyer follow Santelmann's (1993) idea of *den*-support. Santelmann assumes that *den* supports the [def] feature in D as *do* does with the features of INFL. Santelmann argues that noun traces cannot license adjectival agreement, so N has to remain in situ and *den* is inserted to support the features in D. Since adjectives agree, too, if the preadjectival article is not present, the question arises how this could work. But I do not want to go into the details of Santelmann's analysis, the interesting point here is that Embick & Noyer (2001) in parts follow Santelmann's idea although her analysis is motivated by the notion of traces (which in DM are only of explanatory value) and then split the preadjectival article in *d-* plus suffixed article.

Where does this *d-* come from? Diachronic facts question Embick & Noyer's analysis. As is assumed in the literature (cf. e.g. Prokosch 1939), the suffixed article and the preadjectival article developed out of the demonstrative.

The demonstrative and the preadjectival article are identical in form, however, their content is different. Embick & Noyer's claim amounts to the fact that only one article developed from the demonstrative, namely the suffixed one. The question that arises is the following: when double definiteness was introduced into some of the Scandinavian languages, would it not have been easier to resort to an independent element that is already in the language instead of taking the suffixed article, which then had to be supported by *d*-? Old Norse texts show structures of the type N DEF (cf. e.g. Noreen 1904), where DEF has the form of the demonstrative but is not suffixed then. When it was finally suffixed the word-initial dental got lost. This means the suffixed article lost the preceding dental in the process of affixation, the form of the definite article before was that of the demonstrative, i.e. the development is from *den* to *-en* and not from *-en* to *den*. Thus, the introduction of *d*- as a host for *-en* seems very unlikely.

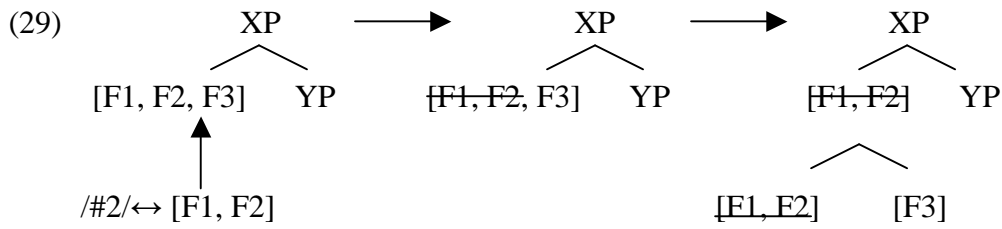
A last point of critique: Embick & Noyer (2001) do not account for the differences in meaning that arise depending on the use of the weak or strong form of adjectival inflection. This, however, is a point that should not be neglected in an analysis of Scandinavian noun phrases since adjectival inflection clearly is of semantic import. Adjectival inflection interacts with definiteness and carries one of the three components of definiteness in Scandinavian DPs. The question that arises at this point is how this interaction could be accounted for structurally.

6.3 Is there a Morphological Explanation?

Embick & Noyer's (2001) account is basically a morphological one. For the above reasons, their analysis is not entirely unproblematic and the question arises whether other tools of DM-Morphology could solve the problem.

Since definiteness in Scandinavian DPs comprises three features ([disc], [ident], and [sref]) it seems not unplausible to see them in one functional head. There is an operation in DM that allows a single syntactic node to be realized in more than one morphological position, *Fission*: a Vocabulary Item that is competing for insertion into a syntactic node (28a) may be underspecified, that means that the features of the Vocabulary Item (28b) are a subset of the features on the syntactic node. If the most highly specified Vocabulary Item contains only a subset of the features on the terminal node, not all of the node's features are satisfied by Vocabulary Insertion. The remaining features form a subsidiary morpheme and thus yield an additional morphological position.

- (28) a.
$$\begin{array}{c} \text{XP} \\ \diagup \quad \diagdown \\ \text{[F1, F2, F3]} \quad \text{YP} \end{array}$$
- b.
$$\begin{array}{l} / \# 1 / \leftrightarrow [\text{F1}] \\ / \# 2 / \leftrightarrow [\text{F1, F2}] \\ \dots \end{array}$$



However, Fission is a morphological tool that is applied within words, but in the case of Scandinavian DPs, the relevant features are distributed over three distinct Vocabulary Items. An additional problem a Fission account would face is the fact that the Morphemes inserted into the additional morphological positions would have to be lowered⁸ and it is far from clear how the lowered nodes would reach their respective destination. *Lowering* may be non-local, but it involves adjunction of a head to the head of its complement, i.e. the two fissioned nodes would head for the same host. A further postsyntactic variety of movement, *Local Dislocation*, cannot solve the problem either. Local Dislocation “is sensitive to relations of adjacency and precedence between constituents [...] Local Dislocation must always be *local*” (Embick & Noyer 2001:564). Thus we can conclude that the postsyntactic tools of Distributed Morphology cannot account for the patterns found in Scandinavian DPs – a possible solution seems to lie in syntax proper rather than in Morphology.

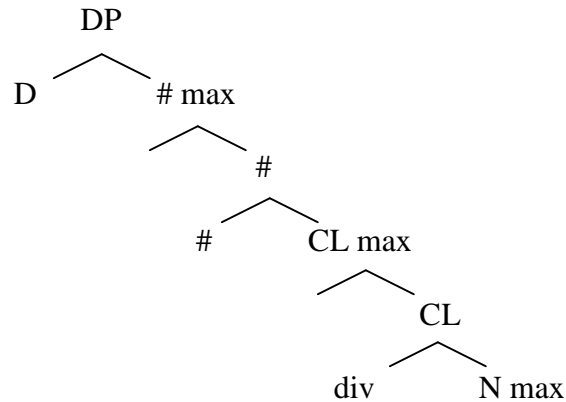
6.4 The Structure of Scandinavian DPs

The analysis I put forth is based on the following assumptions.

i) Borer’s (2005) DP structure (30) includes a classifier phrase, which has a dividing function, and a number phrase #P, which is the quantity phrase. The absence of CLP gives rise to mass interpretation. If no quantity interpretation is intended, #P is absent. The existence of CLP is a precondition for #P, whereas the existence of #P is not a precondition for CLP, i.e. nouns can be divided but not count (bare plurals). I adopt Borer’s view that nouns are inherently mass nouns. Thus, both singular and plural nouns need to be individuated, irrespective of their being modified or not. If N is not to be interpreted as a mass noun, some kind of operation has to take place.

⁸ *Lowering* is a kind of merger in Morphology.

(30)



ii) There has been some debate whether prenominal adjectives should be analysed as heads (*'adjective-as-head analysis'*⁹), however, since adjectives in Scandinavian can take complements and phrasal APs can appear prenominal (31), I assume that prenominal adjectives in Scandinavian are APs, generated in the complement position of N.

(31) a. alla i stadsmiljö boende medborgare

all in downtown living citizens
'all citizens living downtown'

b. en för rockkonserter olämplig lokal

a for rock concerts unsuitable venue
'an unsuitable venue for a rock concert'

(Swedish, Holmes & Hinchliffe 2003:456)

The idea that APs originate as complements of N is motivated by Condoravdi's (1989) analysis of middles applied to DPs (Larson 1998): the postverbal AP constitutes the nuclear scope of event modification, that is, the relative proximity of the AP to N is relevant for the interpretation.

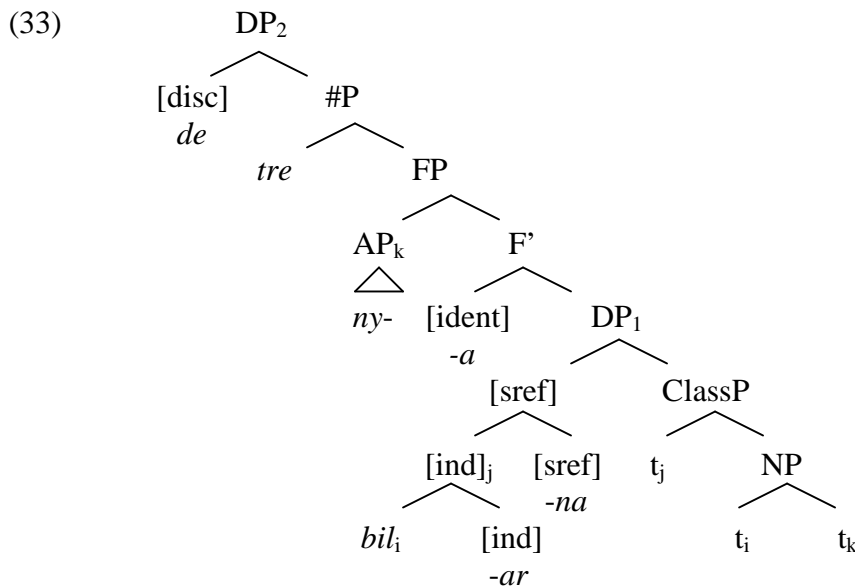
iii) In plural formation, Swedish nouns are divided into essentially five declensions. For the following reasons, I assume that the *form* of the declensional affix does not carry any semantic content apart from plural information: i) There is no clear-cut distinction with respect to the allocation of nouns to declension classes; this mainly seems to be determined by phonological aspects (Holmes & Hinchliffe 2003:24ff). ii) Some nouns have alternative plural endings and can be used with either of the declensional affixes, for example *en katt, katt-er/-or* 'cat, cats', *en kollega, kolleg-er/-or* 'a colleague, colleagues' (Holmes & Hinchliffe 2003:13). iii) The pronunciation often does not clearly indicate which declension is used. For instance, even though one of the endings is spelled *-or*, it is frequently pronounced as if it were spelled *-er*, hence there is often no distinction

⁹ For an overview see Alexiadou et.al. (2007)

that can be made out in spoken Swedish between the two declension classes *-or* and *-er* (Holmes & Hinchliffe 2003). iv) According to some grammars (e.g. Holmes & Hinchliffe 2003), there is a separate declension class for loans that retained their foreign character. As soon as the loan becomes familiar, an indigenous plural may be used instead, chosen according to the phonological conditions of the loan (*reporters* > *reportrar*, Holmes & Hinchliffe 2003:23). For the structure of the DP this suggests that the declensional affix is neither a kind of thematic element nor of any other import than being a plural marker.

The full syntactic structure I thus assume for Scandinavian DPs is the following.¹⁰

- (32) *de tre ny-a bil-ar-na*
 DEF three new-W car-PL-DEF
 ‘the three new cars’



The features [sref], [ident], and [disc] each head their own phrase, DP₁, FP, and DP₂ respectively. The syntactic structure in (33) contains a classifier phrase, ClassP, because the feature [ind], *individuation*, functions as a classifier that individuates mass nouns. In case of plural marking, the declensional affix is inserted here, in singular DPs \emptyset is inserted. The Vocabulary Item *bil* enters the derivation as a mass noun and is individuated by its movement to the head of ClassP, which adds a ‘kind/type-reading’. Mass nouns that are to be interpreted as mass nouns remain in situ. Bare plurals move to the head of ClassP, too, as do

¹⁰ Traces *t* and Vocabulary Items have only been inserted for explanatory reasons.

mass nouns that carry plural inflection and/or are combined with numerals, as the following examples show.

- (34) a. tre mjölk / öl
b. *tre mjölk-PL / öl-PL
three milk / beer
- (35) a. fyra limonad
b. fyra limonad-er
four lemonade(-PL) (Swedish, Holmes & Hinchliffe 2003)

Although all of the nouns in (34) and (35) are mass nouns, they are understood as being quantified. Some of these nouns can even take a plural article (35b). Example (34) is ambiguous and can be understood as three glasses/packages or three brands of beer/milk, whereas the examples in (35) are unambiguous: the first clearly denotes four glasses of lemonade, the latter four different types (brands) of lemonade.¹¹ Nevertheless, in all of those cases, I assume that the noun adjoins to the head of ClassP, because in all of the above examples a 'kind/type'-reading is achieved. The head of ClassP then moves further and adjoins to [sref] under D₁. As soon as FP has been merged, the AP moves from its complement position to the specifier of FP, thus yielding the correct order of the Morphemes.

7. Conclusion

In this paper I have argued that the notion of definiteness in Scandinavian DPs is made up of three particular components, which are expressed by three distinct morphemes: *discourse reference* [disc], *identity* [ident], and *specific reference* [sref]. The suffixed article brings about specific reference and is merged under D₁, the adjectival inflection identifies the member(s) in the A+N denotation and is merged in FP to identify the [ident] feature, and the preadjectival article introduces a new, modified discourse variant and matches the [disc] feature under D₂. Following head movement and XP-movement operations then provide the correct word order.

As shown for Greek (Alexiadou 2006) and Romanian (Alexiadou & Marchis 2007), in Scandinavian, too, double marking inside the DP is not a mere agreement phenomenon but is clearly of interpretive value. The ways of

¹¹ The fact that some quantified mass nouns can take plural inflection whereas others cannot may be due to phonological reasons. The noun *limonad* 'lemonade' as a polysyllabic noun ending in a stressed syllable can clearly be allocated in the third declension, which uses *-er* to form the plural, whereas *mjölk* and *öl*, monosyllables ending in consonants, could belong to several declension classes (one of which is even the sixth declension, the zero plural).

On the Structure of the Scandinavian DP

realization and the semantics may differ in the respective languages, i.e. the notion of definiteness is not encoded in the same way, the double marking inside DPs, however, interacts with interpretation, as does the adjectival inflection in Scandinavian, which interacts with interpretation, too.

References

- Alexiadou, A. 2006. On the cross-linguistic distribution of (in)definiteness spreading. Talk presented at the ÖLT Syntax Workshop, Klagenfurt.
- Alexiadou, A., L. Haegeman & M. Stavrou. 2007. Noun Phrase in the Generative Perspective. Berlin: Mouton de Gruyter.
- Alexiadou, A. & M. Marchis. 2007. On the distribution of adjectives in Romanian: the *cel* construction. Talk presented at Going Romance, University of Amsterdam.
- Anderssen, M. 2006. Ph.D. Dissertation, University of Tromsø.
- Borer, H. 2005. *In Name Only*. Oxford: Oxford University Press.
- Brugmann, K. 1904. *Kurze vergleichende Grammatik der indogermanischen Sprachen*. Strassburg: Karl J. Tübner.
- Chesterman, A. 1991. *On Definiteness*. Cambridge: Cambridge University Press.
- Condoravdi, C. 1989. The Middle: Where Semantics and Morphology meet. MIT Working Papers in Linguistics 11, 16-30.
- Delsing, L.-O. 1993. *The Internal Structure of Noun Phrases in the Scandinavian Languages*. Ph.D. Dissertation, University of Lund.
- Embick, D. & R. Noyer, 2001. Movement Operations after Syntax. *Linguistic Inquiry*, Vol. 32, Number 4, 555-595.
- Halle, M. & A. Marantz. 1994. Some Key Features of Distributed Morphology. MIT Working Papers in Linguistics 21, 275-288.
- Halle, M. & A. Marantz. 1993. Distributed Morphology and the pieces of inflection. In: Hale, K. & S. J. Keyser (eds). *The view from building 20*. MIT Press.
- Harley, H. & R. Noyer. 1999. State-of-the-Article: Distributed Morphology. In: *GLOT 4.4*, 3-9.
- Hawkins, J.A. 1978. *Definiteness and indefiniteness: a study in reference and grammaticality prediction*. London: Croom Helm.
- Holmes, P. & I. Hinchliffe. 2003. *Swedish – A Comprehensive Grammar*. London: Routledge.
- Julien, M. 2005. *Nominal phrases from a Scandinavian perspective*. Amsterdam: John Benjamins.
- Kayne, R. 2004. Some preliminary comparative remarks on French and Italian definite articles. Ms. NYU.
- Kester, E.-P. 1992. Adjectival inflection and dummy affixation in Germanic and Romance languages. In: Holmberg, A. (ed.) *Papers from the Workshop on the Scandinavian Noun Phrase*. University of Umeå, 72-87.

Susanne Lohrmann

- Krámský, J. 1972. *The Article and the Concept of Definiteness in Language*. The Hague: Mouton.
- Larson, R. K. 1998. Events and modification in nominals. *Proceedings of SALT*.
- Lohrmann, S. 2007 (to appear). The role of adjectival inflection in Scandinavian. In: *Proceedings of the LingO Conference*, University of Oxford.
- Lyons, C. 1999. *Definiteness*. Cambridge: Cambridge University Press.
- McFadden, T. 2003. On the pronominal origins of the Germanic strong adjective inflection. *Penn Working Papers in Linguistics* 10(1), 123-136.
- Meier-Brügger, M. 2003. *Indo-European Linguistics*. Berlin: Walter de Gruyter.
- Noreen, A. 1904. *Altschwedische Grammatik*. Halle: Max Niemeyer.
- Partee, B. H., A. ter Meulen & R. E. Wall. 1990. *Mathematical Methods in Linguistics*. Dordrecht: Kluwer Academic Publishers.
- Prokosch, E. 1939. *A Comparative Germanic Grammar*. Philadelphia: Linguistic Society of America, University of Pennsylvania.
- Santelmann, L. 1993. The Distribution of Double Determiners in Swedish: Den Support in D°. In: *Studia Linguistica* 47, 154-175.
- Vangsnes, Ø.A. 2007. On the morphosyntax of Scandinavian adjectives. Paper presented at the guest lecture series of the SFB 732/GK 609, Stuttgart.

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