

Deriving double definiteness

The interaction between syntax and morphology

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1. Introduction

Swedish, Norwegian, and Faroese:

- Unmodified definite DPs: N + definite suffix

- | | | | |
|-----|----|--|-------------|
| (1) | a. | <i>hus-et</i>
house-DEF.NEUTER.SG
'the house' | [Swedish] |
| | b. | <i>skjort-a</i>
shirt-DEF.FEM.SG
'the shirt' | [Norwegian] |
| | c. | <i>kettlingur-in</i>
kitten-DEF.MASC.SG.NOM
'the kitten' | [Faroese] |
- (Julien 2005: 26-27)

- Definite DPs with a pronominal adjective: free definite article + adjective + N + definite suffix

- | | | | | | |
|-----|----|---|--|--|-------------|
| (2) | a. | <i>det</i>
the.NEUTER
'the yellow house' | <i>gul-a</i>
yellow-WEAK | <i>hus-et</i>
house-DEF.NEUTER.SG | [Swedish] |
| | b. | <i>den</i>
the.SG.NON-NEUTER
'the yellow shirt' | <i>gul-e</i>
yellow-WEAK | <i>skjort-a</i>
shirt-DEF.FEM.SG | [Norwegian] |
| | c. | <i>tann</i>
the.MASC.SG
'the black kitten' | <i>svart-i</i>
black-WEAK.MASC.SG.NOM | <i>kettlingur-in</i>
kitten-DEF.MASC.SG.NOM | [Faroese] |
- (Julien 2005: 26-27)

Construction in (2): double definiteness/determination (Delsing 1988, 1993; Santelmann 1993; Kester 1993; Giusti 1994; Börjars 1998; Bernstein 2001; Embick & Noyer 2001; Hankamer & Mikkelsen 2002, 2005; Julien 2002, 2003, 2005; Roehrs 2006, Heck, Müller & Trommer 2007, among others)

Research question: Why is there a double expression of definiteness in definite DPs containing a pronominal adjective in Swedish, Norwegian, and Faroese?

Working hypothesis A: attributive As must be c-commanded by a definite D.

Inflection: attributive adjectives are sensitive to the definiteness of the DP they occur in (the weak-strong distinction, cf. (5)- (6) above).

Null hypothesis about adjectival agreement: licensed by the same mechanism that is active in other instances of agreement.

Chomsky (2001): agreement is licensed through the relation Agree

C-command requirement on Agree: the Probe (the element bearing uninterpretable features) needs to c-command the Goal, the element that has interpretable features.

The adjective is the probe here:

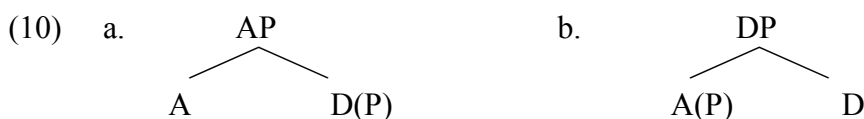
- The adjective bears uninterpretable features for gender and number.
- The adjective adopts the lexically defined features of the N it modifies.
- Agreement on attributive As is sensitive to the definiteness of the DP (strong/weak distinction)

Weak adjectival inflection: sensitive to definiteness \Rightarrow Agree relation triggered by the A is sensitive to definiteness \Rightarrow a definite D is in the search domain of the adjective.

Working Hypothesis B: attributive As in definite DPs must c-command a definite D

- (9) C-COMMAND PARADOX
Attributive adjectives with weak adjectival inflection must be c-commanded by a definite D for their interpretation, but they must c-command a definite D in order to license their weak adjectival inflection.

One D cannot resolve the paradox, would require mutual c-command between the adjective and the definite D.



Problem: N is not c-commanded by D and hence outside its scope.

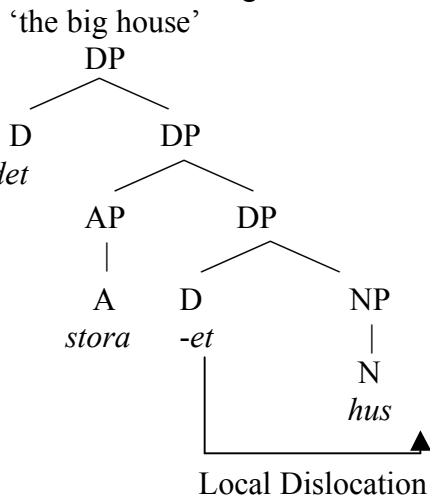
2.3. Outline of the proposal

I propose that the C-COMMAND PARADOX is resolved by having two definite Ds in definite DPs containing an adjective with weak inflection:

1. A D that is c-commanded by the adjective. It licenses the weak adjectival inflection and is associated with the definite suffix.
2. A D that c-commands the adjective. It brings the adjective in the domain of the definite determiner.

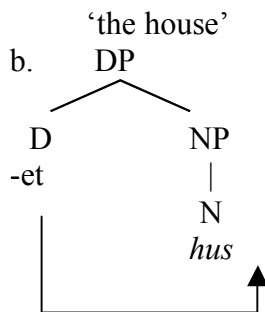
I assume that attributive adjectives are adjuncts and that the lower D-copy is suffixed on N by Local Dislocation (Embick & Noyer 2001) (to be motivated below).

(11) a. *det stor-a hus-et* [Swedish]
 the.NEUTER.SG big-WEAK house-DEF.NEUTER.SG



Moreover, I propose that the higher D in (11a) is only merged to bring the adjective inside the domain of the definite D and hence is absent in unmodified definite DPs:

(12) a. *hus-et* [Swedish]
 house-DEF.NEUTER.SG



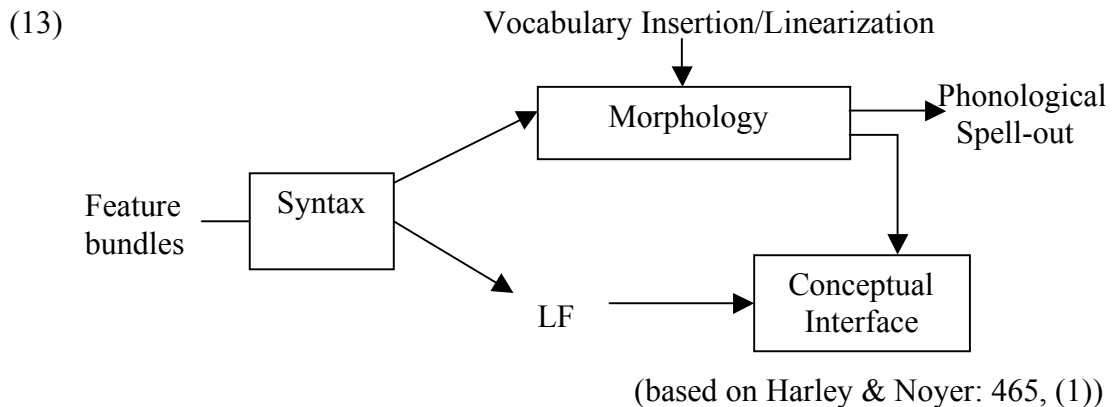
3. Technical implementation of the proposal

3.1. Theoretical assumptions

I will assume a Distributed Morphology model of the grammar (Halle & Marantz 1993, Harley & Noyer 2003):

- Syntax operates on morphosyntactic feature bundles
- Vocabulary items, and their phonological form, are inserted in the postsyntactic morphological component (Vocabulary Insertion)

- Linearization of syntactic structures takes places at or right after Vocabulary Insertion (Embick & Noyer's (2001) *late linearization hypothesis*)



Furthermore, I adopt Local Dislocation (Embick & Noyer 2001).

Local Dislocation:

- Postsyntactic movement that takes place after Vocabulary Insertion and Linearization
- Takes a vocabulary item x and right adjoins it to y , the vocabulary item to its right, as a result x will be part of the, now complex, vocabulary item y .

(14) $[X * [Y * Z]] \rightarrow [Y+X]_{Y^o} * Z$

(‘ $a * b$ ’ means that a linearly precedes b and is adjacent to it (Embick & Noyer 2001))

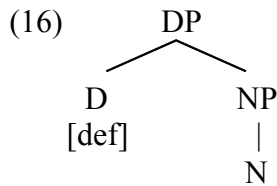
- As it takes place after Vocabulary Insertion, it can be sensitive to idiosyncratic information of Vocabulary Items (Local Dislocation Hypothesis: Embick & Noyer 2001: 566).

3.2. Unmodified definite DPs

Unmodified definite DPs in Norwegian, Faroese, and Swedish: only definite suffix.

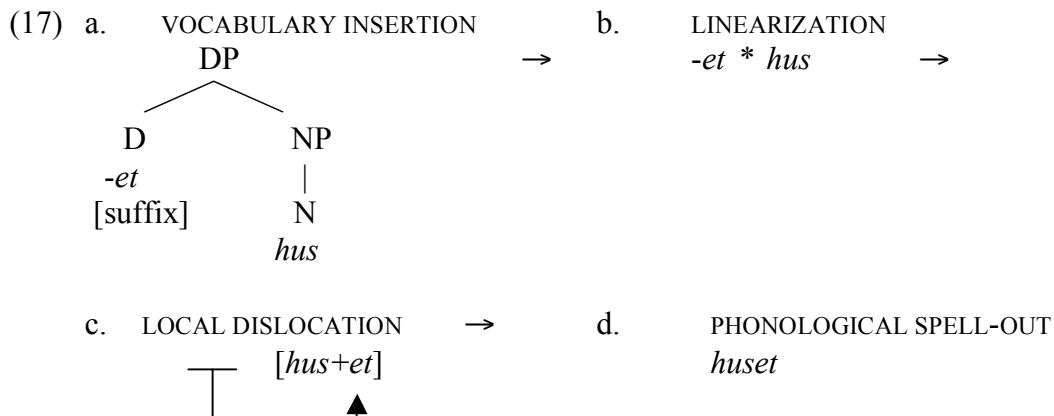
- (15) *hus-et* [Swedish]
 house-DEF.NEUTER.SG
 ‘the house’

I propose the following syntactic structure for these DPs



Morphological component (illustrated for the derivation of (15) in (17)):

- Vocabulary Insertion: will insert the definiteness suffix in D, and the head noun in N (17a).
- Linearization (according to Kayne’s (1994) LCA or a similar linearization procedure): will result in a linear order in which the definite suffix precedes N (17b).
- Local Dislocation: will right adjoin the suffix to N in order to satisfy the suffixal properties of the definiteness suffix (17c).
- Phonological Spell-out is the point at which the morphological component hands over the derivation to the phonological component (17d).



Why Local Dislocation for combining the definite suffix and the noun (as opposed to head movement or lowering)?

Vocabulary Sensitivity (Hankamer & Mikkelsen 2002, 2005): not all nouns can take the definite suffix, for instance *-ende* nouns in Swedish

- (18) a. **studerend-en* [Swedish]
 student-DEF.NON-NEUTER.SG
- b. *den* *studerende*
 the.NON-NEUTER.SG student
 ‘the student’ (Hankamer & Mikkelsen 2005: 103)

Hence, the suffixation should have access to (idiosyncratic) properties of Vocabulary Items inserted in N.

Conclusion: suffixation takes place after Vocabulary Insertion → Local Dislocation.

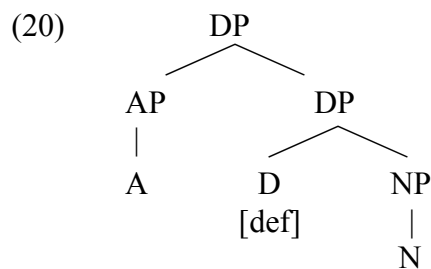
3.3. Definite DPs containing an adjective

Definite DPs with an adjective: freestanding definite article + definite suffix (double definiteness)

- (19) *det stor-a hus-et* [Swedish]
the.NEUTER.SG big-WEAK house-DEF.NEUTER.SG
'the big house'

Above, the adjective has to c-command a definite D, because of the weak adjectival inflection.

Proposal: the adjective is adjoined to DP, such that A(P) will c-command a definite D



Why?

Empirical reason: weak adjectival inflection

After adjunction of A, A probes down its c-command domain. The presence of a definite D in this domain explains the sensitiveness to definiteness of the adjectival inflection.

Theoretical reason: maybe a combination of

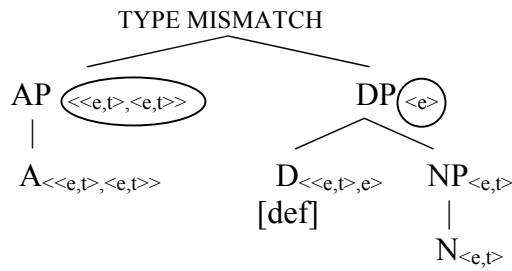
- the phasehood of DP (Chomsky 2001, Heck & Zimmermann 2004)
- late (postcyclic) insertion of adjuncts (Stepanov 2001)
- the No Tampering Condition (Chomsky 2005).

However, adjoining AP to DP has a downside, AP is now outside the scope of a definite D.

Formalization: Adjunction of an attributive AP ($\langle\langle e,t\rangle, \langle e,t\rangle\rangle$) to a definite DP ($\langle e\rangle$) causes a semantic type mismatch.

Assumption: semantic types are part of the morphosyntactic feature bundles in Narrow Syntax.

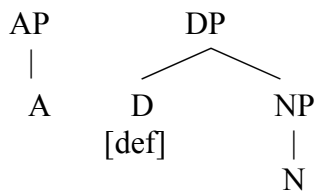
(21)



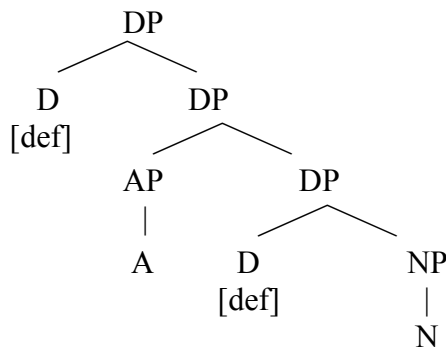
How is this type mismatch resolved?

Type mismatch triggers internal merge of D at a position in which D c-commands AP (cf. the type mismatch triggered movement account of QR by Heim & Kratzer 1998):

(22) a.  → Internal merge D



b.



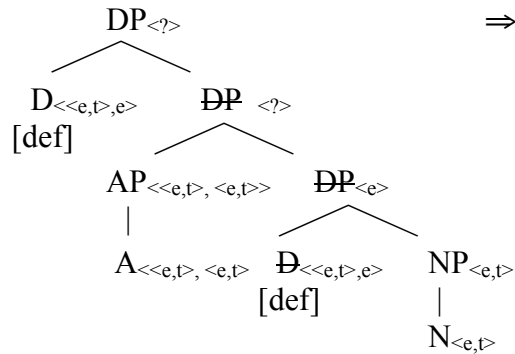
The structure in (22b) is subsequently submitted to the CI-interface and the Morphological component.

- CI-interface: only one copy of the <D,D> -chain is interpreted (cf. Chomsky 1999, Bobaljik 2002, among others).

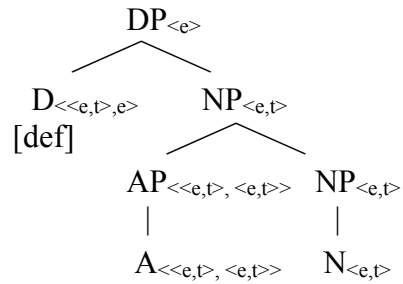
In this case, the higher D copy is interpreted, the lower one gets deleted (and as a result also all the projections of the lower D).

(23) CI-INTERFACE

LOWER D-COPY DELETION



INPUT SEMANTIC COMPONENT



This has two effects:

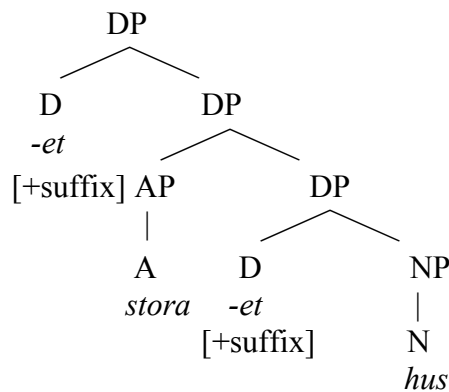
- The AP is now inside the scope of the definite D
- Deletion of the lower copy of D will get rid of the type mismatch caused by adjunction of the adjective to DP

• Morphological Component

- Step #1: Vocabulary Insertion
- Step #2: Linearization

(24) a. *det stor-a hus-et* [Swedish]
 the.NEUTER.SG big-WEAK house-DEF.NEUTER.SG
 ‘the big house’

b. VOCABULARY INSERTION



c. LINEARIZATION

*-et * stora * -et * hus*
 [suffix] [suffix]

- Step #3: Local Dislocation applies to the lower D-copy. It cannot apply to the higher D copy, because A is not a suitable host for the definiteness suffix.
- Step #4: Chain Reduction (Nunes 2001) does not apply. The lower D-copy has been reanalyzed as part of N through Local Dislocation.

4. Definiteness in the Germanic DP

Germanic languages (except English): a strong-weak distinction for adjectival inflection.

Strong-weak adjectival inflection: the motivation for having two Ds in definite DPs containing an adjective in the languages displaying double definiteness.

Hypothesis: Germanic languages have two Ds in the syntax

Double definiteness: only Norwegian, Faroese, and Swedish spell out the two Ds.

Besides double definiteness, three other patterns of definiteness marking:

1. definite suffix and free definite article in complementary distribution: Danish
2. definite suffix only: Icelandic
3. free definite article only: German, Dutch, English

Why do the other Germanic languages not display double definiteness?

Claims: Cross-linguistic variation in Germanic is due to

A. small morphological differences

- ordering of morphological operations (Danish)
- definite article is a free morpheme (Dutch & German)

B. An additional step in the syntactic derivation of definite DPs (Icelandic)

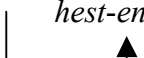
4.1. Danish

Definiteness marking in Danish:

- Unmodified definite D: definiteness suffix (29a)
- Definite DP containing an adjective: free definite article only (29b), (double definiteness is not allowed (29c))

- (29) a. *hest-en* [Danish]
horse-DEF
'the horse'
- b. *den rød-e hest*
the red-WEAK horse
'the red horse'
- c. **den (rød-e) hest-en*
the (red-WEAK)horse-DEF (Hankamer & Mikkelsen 2002)

Unmodified definite DP: same as in the double definiteness languages (D-is suffixed through local dislocation)

- (30) a. NARROW SYNTAX [DP D [NP N]]] b. VOCABULARY INSERTION & LINEARIZATION
*-en * hest*
- c. LOCAL DISLOCATION d. PHONOLOGICAL SPELL-OUT
hest-en *hesten*
- 

Modified definite DPs:

N.B. the absence of double definiteness in Danish cannot be due to properties of the VIs marking definiteness.

I claim that the ordering of operations applying in the morphological component is different in Danish than in the double definiteness languages:

- (31) a. DOUBLE DEFINITENESS
 Local Dislocation > Chain Reduction
 b. DANISH
 Chain Reduction > Local Dislocation

- (32) a. *den rød-e hest* [Danish]
 the red-WEAK horse
 ‘the red horse’
- b. NARROW SYNTAX
 [DP D [DP [AP A] [DP D [NP N]]]]]
- c. VOCABULARY INSERTION
 [DP [D-en] [DP [AP [A rød-e]] [DP [D -en] [NP [N hest]]]]]]]
- d. LINEARIZATION
*-en * rød-e * -en * hest*
- e. CHAIN REDUCTION (different from double def.)
*-en * rød-e * -en * hest*
- f. LOCAL DISLOCATION
 d.n.a.
- g. d-SUPPORT
*d-en * rød-e * -en * hest*
- h. PHONOLOGICAL SPELL-OUT
den rød-e hest

4.2. German and Dutch

Only the free definite article (both in the presence and absence of an adjective):

- (33) *die (schön-en) Bücher* [German]
 the.PL (nice-WEAK) book.PL
 ‘the nice books’

- (34) *de* (*mooi-e*) *boek-en* [Dutch]
the (nice-WEAK) book-PL
'the nice books'

Dutch and German: no definiteness suffix \Rightarrow definite article is a free morpheme

Free morphemes: do not undergo Local Dislocation.

Unmodified definite DPs: same as double definiteness languages, except for the Local Dislocation of the definite article.

- (35) a. NARROW SYNTAX [DP D [NP N]]]
b. VOCABULARY INSERTION & LINEARIZATION
*die * Bücher*
c. LOCAL DISLOCATION N.A.
d. PHONOLOGICAL SPELL-OUT
*die * Bücher*

Modified definite DPs: no Local Dislocation \Rightarrow definite articles are fully visible to Chain Reduction (whatever the ordering is between these operations).

- (36) a. *die* (*schön-en*) *Bücher* [German]
the.PL (nice-WEAK) book.PL
'the nice books'
b. NARROW SYNTAX
[DP D [DP [AP A] [DP D [NP N]]]]]
c. VOCABULARY INSERTION
[DP [D *die*] [DP [AP [A *schön-en*]] [DP [D *die*] [NP [N *Bücher*]]]]]
d. LINEARIZATION
*die * schönen * die * Bücher*
e. LOCAL DISLOCATION
d.n.a.
f. CHAIN REDUCTION
*die * schönen * ~~die~~ * Bücher*
g. *d*-SUPPORT
d.n.a.
h. PHONOLOGICAL SPELL-OUT
die schönen Bücher

English: might be the same, but not sure (there might not be two Ds (because of the absence of adjectival inflection))

4.3. A note on Icelandic

Icelandic only has a definite suffix (Einarsson 1945; Sigurðsson, 1993, 2006, Vangsnes 1999):

- (37) a. *hest-ur-inn* [Icelandic]
horse-MASC.NOM.SG-DEF.MASC.NOM.SG
‘the horse’
b. *góð-i mað-ur-inn*
good-NOM.MASC.SG.WEAK man-NOM.MASC.SG-DEF.NOM.MASC.SG
‘the good man’ (Einarsson 1945)

Unexpected under the current analysis!

Icelandic: weak adjectival inflection + attributive interpretation of the adjective (like the other Germanic languages)

Therefore, the same syntactic derivation:

- Adjunction of AP to DP
- Internal merge of D

- (38) $[DP \overset{\uparrow}{D} [DP [AP A] [DP D [NP N]]]]$
-

What makes Icelandic different?

Word order difference definite vs. indefinite DPs (Sigurðsson 1993, 2006; Vangsnes 1999):

- Indefinite DPs: NUM > A > N
- Definite DPs: A > N+DEF > NUM

- (39) a. *þrjár fræg-ar greiningar* [Icelandic]
three famous-STRONG analyses
‘three famous analyses’
b. *frægu greiningar-nar þrjár*
famous-WEAK analyses-DEF three
‘the three famous analyses’ (Sigurðsson 2006)

Sigurðsson 2006 & Vangsnes 1999: XP-movement of A + N-DEF over the numeral

- (40) $[A \ N+DEF] \ NUM \ [A \ N+DEF]$
-

I propose that this XP-movement takes place after D-movement.

This will derive the Icelandic pattern, see the appendix for details.

5. Conclusion

Double Definiteness:

Syntax: two Ds in definite DPs containing an adjective in order to license both:

- The adjectival inflection
- The attributive interpretation of the adjective

Morphology: the two Ds are both spelled-out because of their suffixal character, because:

- This triggers Local Dislocation of the lower D to N
- This Local Dislocation bleeds Chain Reduction, ensuring double spell-out

Double definiteness is hence the result of the the interactions of the semantic, syntactic, and morphological components of the grammar.

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Appendix

6. The fine-grained distribution of double definiteness

The presence of an adjective is neither a necessary nor is it a sufficient condition to trigger the double spell-out of definiteness:

- Some definite DPs that do not contain an adjective display double definiteness
- Some definite DPs that contain an adjective do not display double definiteness

How can the analysis deal with this?

6.1. Other contexts in which double definiteness occurs

Definite DPs without an adjective in which double definiteness occurs:

- Definite DPs containing a numeral or weak quantifier
- Definite DPs in which the definite article has a contrastive/demonstrative interpretation

6.1.1. Numeral & weak quantifiers in definite DPs

Weak quantifiers and numerals also trigger double definiteness:

- (41) *de många/tre bil-ar-na* [Swedish]
 the many/three car-PL-DEF
 ‘the many/three cars’

They occur to the left of adjectives:

- (42) *dei to/mange gul-e skjort-e-ne* [Norwegian]
 the.PL two/many yellow-WEAK shirt-PL-DEF
 ‘the two/many/yellow shirts’ (Julien 2005: 26)

This suggests that they are structurally higher than adjectives.

Adjectives adjoined to a definite D \Rightarrow numerals and quantifiers higher than a definite D.

However, numerals & quantifiers ($\langle\langle e, t \rangle, \langle\langle e, t \rangle, t \rangle\rangle$) cannot be merged with a definite DP, ($\langle e \rangle$), without causing a type mismatch.

This type mismatch will be repaired through internal merge of the higher D, just like in definite DPs containing an adjective.

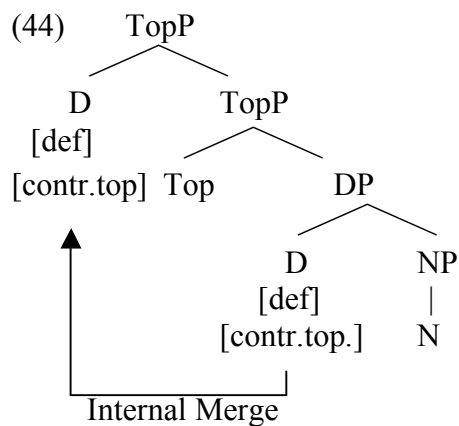
6.1.2. Demonstrative/contrastive reading of the definite article

The definite article can get a demonstrative/contrastive interpretation. In that case, the article receives contrastive stress and may be accompanied by a distal or proxal pronominal PP.

In this context, double definiteness is triggered.

- (43) a. *den film-en var rolig,* [Swedish]
 the.NON-NEUTER film-DEF.NON-NEUTER was funny
men den här film-en var tråkig
 but the.NON-NEUTER here film-DEF.NON-NEUTER was dull
 ‘that film was funny, but this film was dull’
- b. *den här bil-en*
 the.NON-NEUTER here car-DEF.NON-NEUTER
 ‘This car’
- c. *den där bil-en*
 the.NON-NEUTER there car-DEF.NON-NEUTER
 ‘That car’
- (Santelmann 1993: 156)

Proposal: In this case, internal merge of the definite D is triggered in order to license a contrastive topic-feature in a dedicated position in the left periphery of the DP (cf. Aboh 2004 for topic/focus positions in the left periphery of DP).



Morphological component:

- Lower D undergoes Local Dislocation and becomes invisible for Chain Reduction
- Higher D cannot undergo Local Dislocation
 - *Här/där* intervenes between this D and N
 - the special accent on D prevents Local Dislocation (cf. Santelmann 1993)
 - N is not a suitable host after Local Dislocation of the lower D.
- Double spell-out of D.

N.B. we now have two triggers for double definiteness:


- Morphological component:

- VI-insertion in and linearization of the structure in (50c) in the derivation of the phrase in (52), leads to the result in (53):


(52) *frægu greiningar-nar þrjár* [Icelandic]
 famous-WEAK analyses-DEF three
 ‘the three famous analyses’ (Sigurðsson 2006)

(53) VOCABULARY INSERTION & LINEARIZATION
*frægu * -nar * greiningar* -nar * þrjár * frægu* -nar * greiningar*

- Suffixation of *-nar* through rebracketing leads to:

(54) REBRACKETING
*frægu * -nar * greiningar+ nar* * þrjár * frægu* -nar * greiningar*


- Suffixation of *-nar* through Local Dislocation leads to:

(55) LOCAL DISLOCATION
*frægu * * greiningar+ nar +nar* þrjár * frægu* * greiningar+ nar*


- A hapology rule deletes one of the definite suffixes on the first N:

(56) HAPOLOGY-RULE
*frægu * greiningar+ nar+ ~~nar~~* þrjár * frægu* greiningar+ nar*

- Chain Reduction then deletes the lower A * N+DEF sequence:

(57) CHAIN REDUCTION
*frægu * greiningar+ nar * þrjár * ~~frægu* greiningar+ nar~~*

- The derivation is then sent to the phonological component:

(58) PHONOLOGICAL SPELL-OUT
frægu greiningarnar þrjár

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