0. Introduction: Swedish suffixal definite determiners

Common gender nouns:

(1) by-**n** “the village”, 'gumma-**n** “the old woman”

(2) dag-**en** “the day”

(3) konsul-**n**, “the consul”, hummer-**n** “the lobster”

Neuter gender nouns:

(4) bo-(**e)t** “the nest”, 'hjärta-**t** “the heart”

(5) namn-**et** “the name”

First part: accentuation, vowel alternations, postalveolarization involving suffixal determiners.

- What are URs? Should determiners be treated differently from plural markers?

Second part: DP architecture.

- If they are different phonologically, how can it be projected onto the derivation of the DP structure?

1. Suffixes and accentuation: clitics?

It has been assumed in the literature that there are two kinds of pitch accent in Swedish (Meyer 1937 and many others) that constitute a phonological contrast. Realization of the contrast varies from dialect to dialect so are dubbed Accent 1 and Accent 2.

Stockholm type dialects (Eastern) distinguish Accent 1 has one tonal peak and Accent 2 – two peaks.

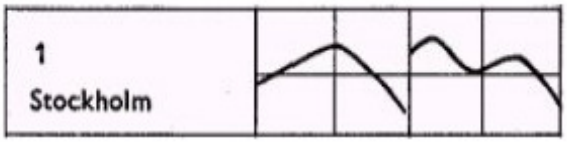

Fig. 1 Accent contrast in Stockholm dialect, Engstrand and Nyström (2002:1)

Roughly, monosyllabic words have Accent 1, bisyllabic – Accent 2 (there are exceptions, I'll return to them). Accent 2's function is often informally described as signaling that the segments form one word.

Lahiri et al (2005) and Morén (2007) among others call definite determiner *–(e)n* clitic (as opposed to suffix) since it does not "count" for the accentuation.

(6)	dam "madam"	Accent 1	dam-er	''madams''	Accent 2
(7)	dag "day"	Accent 1	dag-en	"the day"	Accent 1

▷ Morén's (2007) generalization:

1 syllable word = 'σ$^{\mu\mu}$	Accent 1
2 syllable word = 'σ$^{\mu\mu}$σ$^{\mu}$	Accent 2
3 syllable word = σ$^{\mu}$ 'σ$^{\mu\mu}$σ$^{\mu}$	Accent 1
4 syllable word = ˌσ$^{\mu}$σ$^{\mu}$'σ$^{\mu\mu}$σ$^{\mu}$	Accent 2
5 syllable word = ˌσ$^{\mu}$σ$^{\mu}$σ$^{\mu}$ 'σ$^{\mu\mu}$σ$^{\mu}$	Accent 1
3 syllable word = ˌσ$^{\mu\mu}$ 'σ$^{\mu\mu}$σ$^{\mu}$	Accent 2
4 syllable word = ˌσ$^{\mu\mu}$ σ$^{\mu}$ 'σ$^{\mu\mu}$σ$^{\mu}$	Accent 1

I haven't found explicit mentions of *–(e)t*. According to an informant John Christian Brannigan Odehnal the two determiners are the same in this respect. I need to do fieldwork on *–(e)t*.

✓ Side note: Besides *-(e)n*, an adverbial suffix *–isk* ("-ly") and the comparative ending *-re* are also "invisible" for the accentuation (Eliasson 1972:186). Should they be considered candidates for the clitic status?

2. Suffixes and vowel alternations: epenthesis, syncope or outside of the prosodic word?

Swedish has Ø/[ə] (and some Ø/[a], Ø/[ɔ], Ø/[ʊ]) alternations.

Alternations occur in:

- stems (mostly in [-el], [-en], [-er]) speg**e**l [spe:gel] "mirror" spegl-ar [spe:glar] "mirrors"

- plural markers städ-**e**r [stɛːder] “cities” sko-r [skuːr] “shoes”
- present tense endings send-**e**r [sɛndːer] “sends” så-r [soːr] “sows”
- definite marker (common gender) dag-**e**n [dɑːg-en] “the day” gumma-n “the old woman”

There is a body of literature discussing three main analysis: 1) epenthesis only; 2) epenthesis plus syncope; 3) syncope only.

‣ Sundén (1950) argues that in the case of the definite marker neither process takes place but one of the allomorphs is chosen;
‣ Sigurd (1965) proposes syncope in both roots and suffixes;
‣ Öhman (1966) argues for epenthesis in the definite determiner but syncope in some roots;
‣ Teleman (1969) favors syncope in the definite determiner.

✎ The main argument in favor of epenthesis is that some words appearing on the surface as bisyllabic such as *sedel* [ˈseːdel] (“bank note”) have Accent 1. Since they undergo alternation – *sedl-ar* (“bank notes”) – it has been proposed (since Sigurd 1966) that they are underlying monosyllables that undergo epethesis in some contexts.

Eliasson (1972) argues for syncope only:

✎ Some of his arguments:
-- Since different vowels undergo alternation, it is not possible to predict by a rule which one would be inserted be the strict epenthesis hypothesis adopted;
-- Among around 500 Accent 1 alternating disyllables (mostly in *–(e)l*, *–(e)n* and *–(e)r*) around 400 have Accent 1, and less than a hundred – Accent 2. So it may be concluded that morphemes in *–(e)l*, *–(e)n* and *–(e)r* are normally accented with Accent 1 without postulating and underlying monosyllabic form; Among alternating words that do take Accent 2, almost all end in *–(e)l* and all of them are common gender nouns.
-- Alternations do not happen in all possible positions.

■ Syncope in stems:

$$\begin{bmatrix} \textbf{e} \\ \textbf{-stress} \end{bmatrix} \rightarrow \textbf{Ø} \,/\, \begin{bmatrix} \textbf{+cons} \\ \\ \textbf{+cor} \end{bmatrix} \textbf{+son} \begin{bmatrix} \textbf{V} \\ \\ \end{bmatrix} \quad \textbf{-stress} \quad \textbf{X \#}$$

Condition: X does not contain [+stress]

■ Syncope in suffixes (postvocalic):

e → Ø / V + __C]$_{\textbf{inflectional suffix}}$

■ Syncope in the definite suffix (post-consonantal):

$$\begin{bmatrix} \textbf{e} \\ \textbf{+def. art.} \end{bmatrix} \rightarrow \textbf{Ø} \,/\, \begin{bmatrix} \textbf{V} \\ \textbf{-stress} \end{bmatrix} \quad \begin{bmatrix} \textbf{+cons} \\ \\ \textbf{+cor} \end{bmatrix} \textbf{+son} \quad \textbf{__n \#}$$

▹ Why alternations: According to Riad (1992), Swedish prefers a disyllabic trochee as an optimal foot. Morén (2007) assumes a bimoraic trochee requirement. Implicitly Eliasson (1972) considers this one of the factors of the alternations – he talks about reducing the number of unstressed syllables in the word. Löfstedt (2008) takes the stance that zero variant is chosen to avoid dactylic sequences ˈσσσ.

(8) *ˈspegel-ar “mirrors” ˈσσσ dactyl

(9) spegl-ar “mirrors” ˈσσ trochee

▹ This view explains the following contrast:

(10) ˈkonsul-**n** (“the consul”) vs. korˈpral-**en** (“the corporal”), cf. also (18)
*ˈkonsul-en ˈσσσ

But this does not explain why the vowel is kept after stems in [n]:

(11) ˈmorgon-en “the morning” ˈσσσ

Löfstedt (2008) who assumes epenthesis for the common gender definite marker proposes a perception-driven account of the allomorphy: the constraint against two nasals across the morpheme boundary is higher that the constraint against non-parsed syllables.

(12) Löfstedt (2008:17)

	/'pilgrim + n/	*NONDIST MORPH (n,∅/N_#)	PARSE-σ	*NONDIST MORPH (n,∅/L_#)	DEP-V	*NONDIST MORPH (n,∅/V_#)
a.	('pilgrimn)	*!				
b. >	('pilgrim)en		*		*	*

There are couple interesting contrasts that were not focus of either study.

a) Löfstedt notices in passing that: 'morgon-**en** (“the morning”) but 'morgn-**ar** (“mornings”)

– the definite marker for common nouns does not trigger stem syncope as opposed to the plural suffix (cf. 13 and 14 below).

b) Contrasts such as: 'spegel/'spegel-**n** “the mirror” vs. 'segel/'segl-**et** (“the sail”) (also spegl-ar and segl-ar)

– the definite marker for neuter nouns *does* trigger stem syncope instead of tolerating 'σσσ (as 'morgon-en, cf. 14 and 15 below) or appearing as a bare consonant (as 'spegel-n, cf. 16).

2.1 Stem alternations: some paradigms

(13) The plural suffix triggers syncope in common gender nouns with an unstressed final syllable.

	SG	PL	*PL (no stem syncope)	
a.	'aft**o**n	'aftn-ar	*'afton-ar	“evening”
b.	'dott**e**r	'd̲öttr-ar	*'dotter-ar	“daughter”
c.	'humm**e**r	'hummr-ar	*'hummer-ar	“lobster”
d.	'häg**e**r	'hägr-ar	*'hägger-ar	“heron”
e.	'mod**e**r	'möttr-ar	*'motter-ar	“mother”
f.	'morgn**o**n	'morgn-ar	*'morgon-ar	“morning”

g.	'reg**e**l	'regl-ar	*'regel-ar	“rule”
h.	'somm**a**r	'somr-ar	*'sommar-ar	“summer”

(14) The definite marker does not trigger syncope in common gender nouns with an unstressed final syllable.

	SG	DEF	*DEF (stem syncope)	
a.	'aft**o**n	'aft**o**n-en	*'aftn-en	“evening”
b.	'morg**o**n	'morg**o**n-en	*'morgn-en	“morning”
c.	'somm**a**r	'somm**a**r-en	*'sommr-en	“summer”

(15) The definite marker *does* trigger syncope in *neuter* gender nouns with an unstressed final syllable in *–el*, *-en*, *-er*. So does the definite plural marker.

	SG	DEF	*DEF (no stem syncope)	PL DEF	
a.	'fönst**e**r	fönstr-et	'fönster-et	'fönstr-en	“window”
b.	mi'rak**e**l	mi'rakl-et	mi'rakel-et	mi'rakl-en	“miracle”
c.	'seg**e**l	segl-et	'segel-et	'segl-en	“sail”
d.	'vatt**e**n	vattn-et	'vatten-et	'vattn-en	“water”

2.2 Alternations [en]/[n]

(16) [n] allomorph is used in common gender nouns with penultimate stem stress that end in non-nasals.

	SG	DEF	*DEF (-en)	*DEF (stem syncope)	
a.	'doktor	doktor-n	*'doktor-en	*'doktr-en	“doctor”
b.	'dotter	'dotter-n	*'dotter-en	*'dottr-en	“daughter”
c.	'heder	'heder-n	*'heder-en	*'hedr-en	“honor”
d.	hummer	'hummer-n	*'hummer-en	*'hummr-en	“lobster”
e.	'konsul	'konsul-n	*'konsul-en	*'konsl-en	“consul”
f.	'lymmel	'lymmel-n	*'lymmel-en	*'lymml-en	“blackguard” (arch.)
g.	'moder	'moder-n	*'moder-en	*'modr-en	“mother”
h.	'regel	'regel-n	*'regel-en	*'regl-en	“rule”

(17) [en] is used in some (apparently very few) common gender nouns with stems ending in [r] and [l] and penultimate stress.

a.	'fjäril	'fjäril-en	“buttefly“	also possible 'fjäril-n
b.	'kopper	'kopper-en	“copper”	also possible 'kopper-n
c.	'sommar	'sommar-en	“summer”	also possible 'sommar-n

(18) [en] allomorph is used in common gender words in with final stem stress.

a.	hek'tar	hek'tar-en	“hectar”
b.	la'mell	la'mell-en	“lamina”
c.	kam'rer	kam'rer-en	“accountant”

Table 1. Summary of stem and suffixal vowel alternations.

trigger		**definite marker**		**plural marker**		**plural def.**
location of vowel alternation		**stem**	**marker**	**stem**	**marker**	
	sing form					
common gender						
stem final stress						
V	by, café, industri	-	-n	-	-ar/-er	-na
[r] [l] [n] other C	me'tal	-	-en	-	-er	-na
▹ stem penultimate stress						
V	1. 'kyrka 2. pojke 3. hustru	- -	-n -n	1. 'kyrkor 2. 'pojk-ar 3. 'hustru-r		-na
[r]	'sommar	-	-en *or* -n	somr-ar	-ar	-na
[l]	regel	-	-n	'regl-ar	-ar	-na
[n]	'morgon	-	-en	'morgn-ar	-ar	-na
other C	'middag	-	-en	-	-ar	-na
neuter gender						
▹ stem final stress						
V	bo	-	–et *or* –t	-	-n	-na
[r] [l] [n] other C	kon'tor	-	-et	kon'tor		-en
stem penultimate stress						
V	'ställe	-	-t	-	-n	-na
[r]	'fönster	'fönstr-et	-et	'fönster		'fönstr-en *or* fönster-n
[l]	'segel	'segl-et	-et	'segel		'segl-en *or* 'segel-n
[n]	'vatten	'vattn-et	-et	'vatten '		vattn-en
other C	'huvud	-	-et	huvud		huvud-ena

3. Postalveolirazation

In Swedish dentals immediately following [r] get (recursively) postalveorized. This is followed by [r] deletion. This process also can be considered as coalescence of the two consonants. It applies both morpheme internally and across morpheme boundaries (Eliasson 1986).

(20) fjord /fjord/ [fju:**ɖ**] "fiord"

Interestingly, where a definite marker [en] follows r-final stem, this process happens. That is, it appears that [e] in [en] is "invisible" for postalveorization.

(21) för "plow" för-en "the plow" [fœ̣:**ɳ**][1]

As Eliasson (1986) notes, plural marker triggered stem syncope must precede postalveorization, because of the following pattern:

(22)	gördel /gørdel/	[gœ̣:ɖəl]	"girdle"
	gördl-ar	[gœ̣:ɖ**[**ar]	"girdles"

If we assumed epenthesis for *-(e)n*, this would mean that it follows postalveorization.

✎ What seems to be competing hypotheses based on the data above:

▷ UR for the definite common marker is really [n] and, assuming there is epenthesis happening *after* accent assignment, it would potentially explain why *–(e)n* is "invisible" for the accentuation, postalveorization and why it does not trigger stem syncope as the plural marker also *–(e)t* determiner do.

‣ Epenthesis is presumably perception-driven and syllabification-constrained (we have ˈkonsul-**n** instead of *ˈkonsul-**en** but laˈmell-**en**). As the accentuation appears to operate on the syllable structure (Morén's generalization), there might be a problem: if epenthesis is syllabification-constrained, it seems to mean that it should precede the accentuation. Then its results should be "visible" for the accentuation.

[1] ([œ̣:] is an allophone of [ø:] before [r])

▷ UR is [en] but it is not part of the prosodic word at the relevant stage and that is why it is "invisible" for the accentuation, postalveorization and does not trigger stem syncope – there is just no syllable at the levels where those processes happen.

‣ That would be inconsistent with the properties of *-(e)t* which is also presumably "invisible" for the accentuation but which triggers stem syncope. [I need to check it with respect to postalveorization.]

‣ Syncope is presumably syllabification-driven, so at some point the marker should be one prosodic word with the stem.

▷ UR is [n] for common and [et] for neuter and the marker is not part of the prosodic word at the stage of accentuation.

‣ There seems to be a problem with the ordering of syllabification (sensitive to the vowel in the marker) and accentuation (insensitive to the vowel in the marker). Can there be two stages of syllabification: 1) preceding accentuation and involving plural markers; 2) following accentuation and involving "clitics"?

4. Swedish DP structure: what is the role of suffixal definite determiners?

"Double definiteness"

(23) den stor-a bil-en
the big-DEF car-DEF

4.1 Santelmann 1993: den-support analysis

▷ Main idea: when the noun + -en/et cannot move up, *den* is inserted in D^o. The reasons for why the movement gets blocked can be different.

She offers a nice systematic description of under which conditions double definiteness appears.

4.1.1 Determiners distribution.

✎ Contexts for double definiteness:

- attributive adjective, as in (23)
- numerals and certain weak quantifiers

(24) de många bil-ar-na
the.PL many car-PL-DEF

(25) de tre bil-ar-na
the.PL three car-PL-DEF

- contrastive focus or demonstrative meaning

(26) Den film-en var rolig (men den här film-en var tråkig)
the movie-DEF was funny (but that other movie was dull).

- demonstrative expressions *den här* | *den där*.

(27) den här bil-en
the here car-DEF

✎ In all of these contexts both the pronominal determiner and the suffixal determiner are obligatory, unless:

‣ The noun phrase is modified by a restrictive clause – suffixal determiner is absent:

(28) Jag hör-de till **den (lilla) grupp** som lede-s av NN.
I belong-PAST to the (small)group that led-REFL by NN
"I belonged to the (small) group that was led by NN.

‣ The noun phrase has a post-nominal argument or modifier – pre-nominal determiner is absent:

(29) bild-en av min mor
picture-DEF of my mother

Again, it might be present, but then the phrase would have an "emphatic" meaning.

‣ the noun phrase modified by an attributive adjective either consists of a proper name or is unique in the discourse.

(30) norra strand-en
north-DEF shore-DEF

✎ When suffixal determiner cannot be used in Standard Swedish:

- with demonstratives detta/dessa

(31) denna bil (but “denna bilen” in some dialects)

✎ When neither determiner can be used:

- with pre-nominal possessives

(32) min (stora) (*den) bil-(*en)
my big *the car-*DEF

4.1.2 The proposal

▷ Assumptions:

ArtP is selected by “specific types of noun phrases including definites and demonstratives” (S.:162).

- Features for definiteness are located in D°, they are “strong” and need to attach to a lexical head.
- Adjectives are N’ modifiers that need to be licensed for definiteness and gender.

▷ The mechanism – insertion of den-support when N-to-D is blocked:

- In indefinite noun phrases (*en bil*) the pronominal indefinite determiner “supports” [-def] in D° and the noun does not raise.
- In unmodified definite noun phrases N moves do D to support [+def] picking up *–en* on its way;
- In modified noun phrases N cannot move to D (because the adjective should be licensed locally) and –en is “forced to lower onto N° in order to be hosted by a lexical head);
- In “emphatic” noun phrases (as in 26) Den-support appears because the suffix *–en*/*-et* could not bear stress at PF.
- In noun phrases modified by numerals and weak quantifiers N cannot move to D because the former are heads and block the movement.

✎ **Explanation of the non-occurrence of double determination**:

‣ Post-nominal modifiers (no *den*) – N moves to D so no den-support is needed;

‣ Restrictive clauses (no –*en*) – left unexplained;

‣ Possessives (neither *den* or -*en*) – possessive itself raises to SpecDP and satisfies [+def] in Spec-head agreement (*is it the same as "support"*), so den-support is not needed and "when the definiteness features are satisfied in this way, the D° cannot select for the suffixal particle in Art°". S.:172 (*how does the selection work here?*)

‣ Demonstratives detta/dessa (neither *den* or -*en*) – they are part of a projection that is outside of DP and "[t]his projection does not select the suffixal particle."

‣ Uniquely referring phrases and proper names (no *den*) – [+def] in D° is satisfied by a *pro*-D° element licensed by the context.

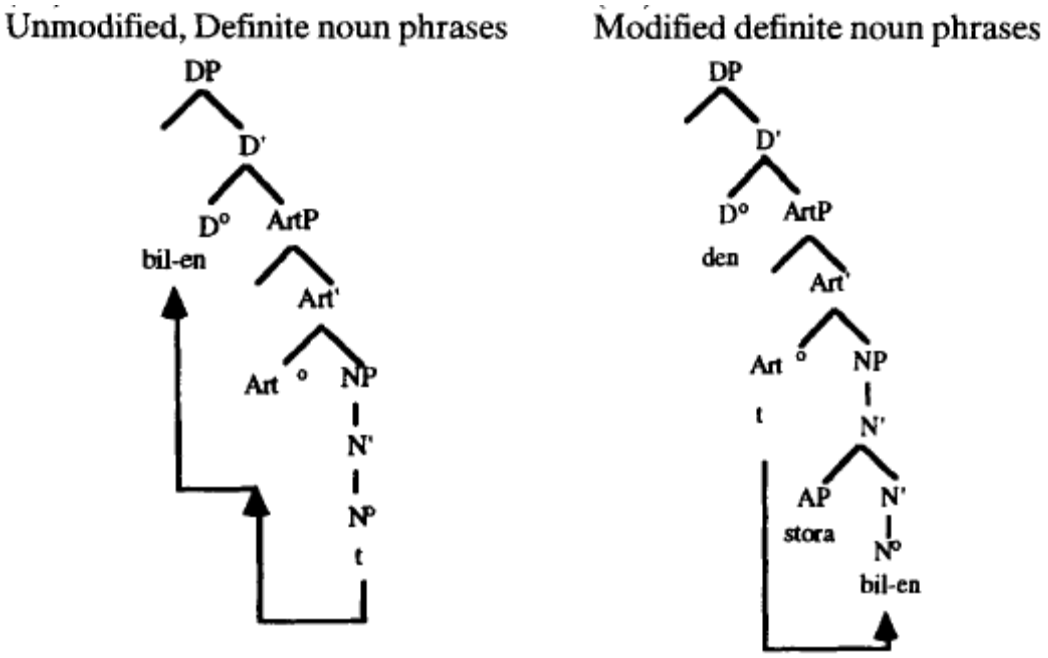

Fig. 2 Derivation of unmodified and modified noun phrases. Santelmann (1993:165)

4.2 Lohrmann (2008)

▷ Main idea: all three definiteness makers – pre-adjectival determiner, adjectival ending and the definite suffix – contribute to the meaning of DP in their own way, since they can be omitted independently in certain contexts. (I'll skip here the part about the adjectival ending as less relevant for the moment).

‣ The definite suffix – *specific reference*. That is why it can be omitted in the context of restrictive relative clauses that "limit and specify the denotation of N", as in (28);

‣ Pre-adjectival determiner – *unique discourse reference*. That is why it can be absent if the meaning of unique reference comes from somewhere else (proper name, unique referent).

4.2.1 The proposal

Semantics of definite markers is encoded with three LF-visible features: [**disc**(course)] (pre-adj. determiner), [**ident**(ification)] (adj. ending) and [**s**(pecific)**ref**(efence)] (suffix).

▷ The mechanism

- DP consists of two DP shells;
- NP takes AP as its complement. Subsequently the AP moves up to the projection F responsible for identification of the members of N + A denotation (existential presupposition arises);
- Classifier Phrase is projected by the head bearing [ind] feature. This head has a dividing function (without it mass interpretation arises) and corresponds to the number morphemes;
- Suffixal determiner heads the lower DP1 bearing feature [sref] which encodes discourse specificity.
- N first moves to Class^{o}, picks up [ind(ividuation)] feature and then moves to D1.

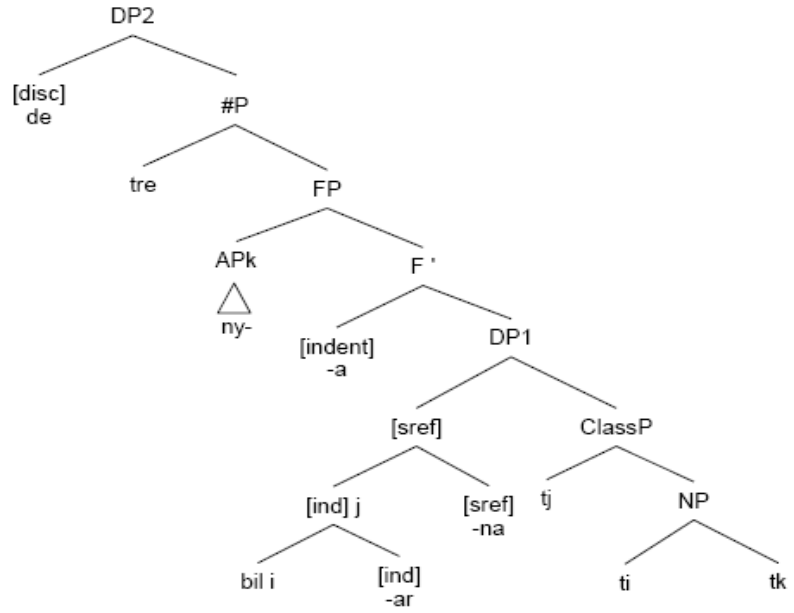

Fig. 3 Derivation of a Swedish DP. (Lohrmann 2008:99)

(33)	de	tre	ny-a	bil-ar-na
	the.PL	three	new-DEF	car-PL-DEF

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