

SOUNDS DEFINITE-LY CLITIC: EVIDENCE FROM SCANDINAVIAN TONE

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1. INTRODUCTION

The Scandinavian languages often have double definite marking – an independent definite lexical item along with a definite ending as we can see in (1).

(1) Definites:

Swedish	den mus-en that mouse-DEF	den här mus-en that here mouse-DEF
Norwegian	den mus-en that mouse-DEF 'that mouse'	denne mus-en this mouse-DEF 'this mouse'

Historically, the {*en*} definite ending comes from a demonstrative, the meaning of which was «weakened» with concomitant destressing (Wessén 1970). The syntactic double marking is conspicuous, but the advent of the definite ending also had vital consequences for tonal alternations. Early Scandinavian predictably distinguished two pitch accents based on syllable structure – monosyllabic words with accent 1, polysyllabic words with accent 2. Scandinavian scholars maintain that when the definite became an enclitic and attached to the end of a word, minimal pairs with a tonal opposition appeared as seen in (2) (cf. Oftedal 1952).

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(2) Minimal pairs with accent contrast

Swedish/Norwegian

'tank₁, 'tankar₂/tanker₂, 'tanken₁ 'tank', 'tanks', 'tank-the'
 'tanke₂, 'tankar₂/tanker₂, 'tanken₂ 'thought', 'thoughts', 'thought-the'

Whether the encliticization was the direct cause of a lexical tonal contrast or not, is not the central thesis of this paper. Here we are crucially concerned with the synchronic status of the {*en*} definite marker: is it a suffix or a clitic? Syntactic evidence suggests that, in comparison to the genitive ending {*s*}, the definite ending falls in the suffixal category while the genitive behaves like a clitic. We will endeavour to make a case that **both** the definite marker {*en*} and the linking {*s*} morpheme – which historically was a genitive ending – phonologically act like clitics as opposed to the indefinite plural suffix {*Vr*} or the linking {*e*} morpheme which appears in compounds. The critical data from Norwegian compounds is given in (3).

(3) Norwegian compounds with linking {*e*} and {*s*}

Accent 1	Gloss	Accent 2	Gloss
land	'land'	merke	'mark'
mann	'man'	landmann	'farmer'
kart	'map'	landkart	'country map'
landsmann	'compatriot'	landemerke	'landmark'

Although the nouns *land* and *mann* individually bear accent 1, when combined in compounds they appear with different accents. Without any linking morpheme, *landmann* has accent 2. The addition of the linking morphemes can change the accent: *landemerke* is also accent 2, while *landsmann* is accent 1. Note that the fact that {*e*} adds a syllable to the first word *land* and hence differs from {*s*} is not a sufficient reason to account for the accent differences in the compounds. The compound *without* any linking morpheme also has two syllables and the first noun is monosyllabic and still has accent 2 (*landmann*₂); but the addition of {*s*} with no syllable count difference, leads to accent 1 (*landsmann*₁).

In what follows, we first briefly present our view of accent assignment in Scandinavian and point out the differences due to the interaction of lexical accent with the indefinite plural affixation as against the definite marking. We then turn to the compounds and provide evidence that the definite marker – in all its variants – as well as the linking morpheme {*s*} are clitics.

2. ACCENT ASSIGNMENT

Swedish and Norwegian have two tonal accents labelled accent 1 and accent 2. Accent 2 must have a disyllabic domain, while all monosyllables surface with accent 1. Contrary to previous accounts (Kristoffersen 2000, Riad 1998a-b, Withgott & Halvorsen 1984), accent 1 in our analysis is the underlying specified accent and accent 2 is default (Lahiri, Wetterlin, Jönsson-Steiner 2005). We do not represent lexically specified accent 1 as L or H. Rather, we adopt Gussenhoven's (1991) idea of accent marking for English, and mark morphemes bearing lexical accent with an abstract diacritic (^x). No particular phonetic correlate is represented with this diacritic, rather all correlates in the various dialects for accent 1 are signified. A sketch of lexical accent marking and accent assignment in Central Swedish and East Norwegian are given in (4) and (5).

- (4) Abstract lexical accent marking in Central Swedish and Standard East Norwegian (Lahiri et al. 2005)

Central Swedish

Words with accent 1: 't^ěrmos 'thermos', 't^ăxi, 'taxi', 'm^űskel 'muscle' etc.

Affixes with accent 1: be^č, för^č, ent^č, -'ăbel, -'ěra, čisk, č^{er}_{PLURAL}

Standard East Norwegian

Words with accent 1: 't^ěrmos 'thermos', 'm^űskel 'muscle', b^ăll 'dance'

Affixes with accent 1: be^č, for^č, ent^č, -'ăbel, -'ěre, čisk, 'ăn-_V, 'ăv-_V, 'ôm-_V
č^{er}_{PLURAL}

- (5) Accent assignment in Central Swedish and Standard East Norwegian (Lahiri et al. 2005)

a. Accent 1 is lexically specified on words and morphemes.

b. Postlexical accent assignment (if not lexically specified)

{...č σ ...}_ω → accent 2;

{...č }_ω → accent 1

To briefly illustrate the difference between our view and standard assumptions, we provide an example using the infinitive forms of prefixed and non-prefixed verbs in (6).

- (6) Analyses of Swedish *be'stäm* and Norwegian *be'stemme*, 'deter-mine'
- i. Accent 2 is specified on the INFINITIVE suffix

Riad (1998a):

stämm-a₂ → 'stämma₂

be-stäm-ma₂ → *deaccenting* → be'stäm-ma₁

Withgott & Halvorsen (1984):

stemm-e₂ → 'stemme₂
 be₁-stemme₂ → be- has dominating accent 1 → be'stemme₁

Kristoffersen (2000):

stemm-e^H → 'stemme₂
 be_{morphological constraint}-stemme^H → be'stemme₁

ii. Accent 1 is specified on the prefix *be^x*

Lahiri et al. (2005)

Sw stämm-a → 'stämma₂ *postlexical default accent*
 Nor stemm-e → 'stemme₂ *postlexical default accent*
 Sw be^xstämm-a → be'stemme₁ *lexical accent dominates*
 Nor be^xstemm-e → be'stemme₁ *lexical accent dominates*

In analysis (ii), lexical accent always dominates, and the prefixed verb gets its accent from the specified accent on {be^x}. The infinitive does not bear any lexical accent and the non-prefixed verb simply gets default accent 2. Like the infinitive, the indefinite plural suffix does not bear lexical accent. Thus, the accent assignment of the plural depends on the presence or absence of lexical tonal specification of the noun. If the noun has no underlying specification, the plural gets default accent 2. Examples are given of the indefinite plural forms in Central Swedish and East Norwegian in (7), which behave the same in both languages in all respects.

(7) Lexical representations of Swedish and Norwegian stems plus indefinite plural suffix

Sw	Lexical representation	Indefinite singular	Indefinite plural (stress & accent assignment)	Gloss
a.	/häst//Vr/	'häst ₁	'häst-ar → 'hästar ₂	'horse'
b.	/månad//Vr/	'månad ₂	'månad-er → 'månader ₂	'month'
c.	/fänrik//Vr/	'fänrik ₁	fä+nrik-ar → 'fänrikar ₁	'ensign'
d.	/hand//ling//Vr/	'handling ₂	'handling-ar → 'handlingar ₂	'action'
e.	/bë//handling//Vr/	be'handling ₁	bë'handling-ar → be'handlingar ₁	'treatment'
f.	/åkr//Vr/	'åker ₁	'åkr-ar → åkrar ₂	'field'
g.	/himmel//Vr/	'himmel ₂	'himmel-ar → 'himlar ₂	'heaven'
Nw				
a.	/hest//er/	'hest ₁	'hest-er → 'hester ₂	'horse'
b.	/måned//er/	'måned ₂	'måned-er → 'måneder ₂	'month'



c.	/fɛ̃nrik//er/	'fenrik ₁	'fɛ̃nrik-er → 'fenriker ₁	'ensign'
d.	/hand//ling//er/	'handling ₂	'handling-er → 'handlinger ₂	'action'
e.	/bɛ̃//handling//er/	be'handling ₁	bɛ̃'handling-er → be'handlinger ₁	'treatment'
f.	/åkr//er/	'åker ₁	'åkr-er → åkrer ₂	'field'
g.	/himmel//er/	'himmel ₂	'himmel-er → 'himler ₂	'heaven'

In the examples in (7), two nouns (c, e) surface with accent 1 in the singular and plural. Note that in (d) the non-prefixed noun bears accent 2. It is the prefix in (e) that carries the lexical accent, inflicting accent 1 on both the singular and plural. The picture changes if we look at the definite endings in (8).

(8) Indefinite plural and definite marking in Swedish and Norwegian

Sw	Lexical representation	Indefinite singular	Definite singular	Indefinite plural	Gloss
a.	/häst//Vr ¹ /	'häst ₁	'häst=en ₁	'häst-ar ₂	'horse'
b.	/månad//Vr/	'månad ₂	månad=en ₂	'månad-er ₂	'month'
c.	/fänrik//Vr/	'fänrik ₁	'fänrik=en ₁	'fänrik-ar ₁	'ensign'
d.	/hand//ling//Vr/	'handling ₂	'handling=en ₂	'handling-ar ₂	'action'
e.	/bɛ̃//handling//Vr/	be'handling ₁	bɛ̃'handling=en ₁	bɛ̃'handling-ar ₁	'treatment'
f.	/åkr//Vr/	'åker ₁	'åker=n ₁	'åkr-ar ₂	'field'
g.	/himmel//Vr/	'himmel ₂	'himl=en ₂	'himl-ar ₂	'heaven'
Nw					
a.	/hest//er/	'hest ₁	'hest=en ₁	'hest-er ₂	'horse'
b.	/måned//er/	'måned ₂	'måned=en ₂	'måned-er ₂	'month'
c.	/fɛ̃nrik ₁ //er/	'fenrik ₁	'fɛ̃nrik=en ₁	'fɛ̃nrik-er ₁	'ensign'
d.	/hand//ling//er/	'handling ₂	'handling=en ₂	'handling-er ₂	'action'
e.	/bɛ̃//handling//er/	be'handling ₁	bɛ̃'handling=en ₁	bɛ̃'handling-er ₁	'treatment'
f.	/åkr//er/	'åker ₁	'åker=en ₁	'åkr-er ₂	'field'
g.	/himmel//er/	'himmel ₂	'himmel=en ₂	'himl-er ₂	'heaven'

As we can see, comparing the singular definite and the indefinite plural, the addition of {en} in the definite form has no effect on the accent.

¹ The Swedish indefinite plural *common* gender suffix is indicated as {-Vr} because there are many *surface variants* [Ø] [-r], [-ar], [-or], [-er]. See (9), page 8.

That is, whatever the accent of the singular happens to be, the same accent prevails after the addition of the definite ending. For instance, Swedish 'fänrik is lexically marked and bears accent 1 and continues to bear accent 1 when the definite ending is added. Moreover, the lexical accent also surfaces in the plural (fänriker₁). However, a monosyllabic noun like häst/hest with no lexical specification gets default accent 2 when the plural suffix is added (hästar₂/hester₂) but remains accent 1 in spite of the addition of the definite marker (hästen₁/hesten₁). The noun 'handling bears accent 2 both in the singular and plural (as a result of the postlexical default rule) and so does the definite. As soon as the prefix {be^x} is added, once again we get accent 1.

To summarize, the examples in (7) and (8) indicate that both the definite marker as well as the indefinite plural add a syllable to singular nouns. In these examples, the addition of a syllable to monosyllabic nouns can provide a disyllabic trochaic domain. However, default accent 2 is entirely predictable when the syllable happens to be the indefinite plural and not the definite marker: cf. Swedish (7a) hästar₂ vs. (8a) hästen₁. Otherwise we can observe no difference in accent marking between the definite singular and the indefinite plural. The monosyllabic nouns show the difference in accent assignment, or rather the domain of accent assignment. It seems that the addition of the indefinite plural suffix creates a disyllabic domain, which is appropriate for the assignment of accent 2; the syllable from the definite singular is ignored by the accent assignment. Thus, the phonological domains created by these endings seem to be different.

Now we turn to definite plural endings. The plural and definite endings of the two genders in Swedish are given in (9). The phonological conditioning of the various allomorphs are also listed below in some detail. In (10), the plural and the definite endings of the Norwegian forms are listed. The plural forms of the two genders in Norwegian are the same.

(9) Swedish definite markers and plural suffixes

The linear order:

- i. singular definite: STEM *plus* DEF
- ii. plural definite: STEM *plus* PL SUFFIX *plus* DEF

Plural suffixes:

- a. *common* {-Vr}: surface variants [Ø] [-r], [-ar], [-or], [-er]
 The surface variants are often phonologically conditioned.
 Umlauted plural {^o}₁ or {^ö-er}₁; must be lexically marked for accent 1
- b. *neuter* {-n}: surface variants [-n] [Ø] [-er]
 /n/ is deleted after C final stems leading to [Ø]; [-er] after final stressed syllables

*Definite markers:*SING {=n}_{COMMON}

[e] is inserted after monosyllabic words and syllables ending in obstruents;

häst=en, termos=en, but doktor=n{=et}_{NEUTER}

[e] is deleted after unstressed vowel.

In *knä=et* 'the knee', the two Vs are almost identical.

PLUR {=na}

[n] is deleted in neuters where the plurals ends in [n]

knä-n=na > knän=a

{=en}

restricted to nouns with no overt plural suffix:*hus=en* 'the houses', *päron=en* 'the pears'

(10) Norwegian definite markers and plural suffixes

*The linear order:*i. singular definite: STEM *plus* DEFii. plural definite: STEM *plus* PL SUFFIX *plus* DEF*Plural suffixes:*a. *common & neuter* {-er}:

Monosyllabic neuter stems usually have a {Ø} suffix; stems ending in /-er/ either add only [e] or have no suffix: *literØ* 'liters', *tingØ* 'things', *baker-e* 'bakers', *teatr-e* 'theatres', etc.

*Definite articles:*SING {=en}_{COMMON} {=et}_{NEUTER}²'*baker=en, pla'tå=et* 'the plateau';/e/ can delete when the stem ends in unstressed /e/: *eple, eple=t* 'the apple'PLUR {=ne}³

Two processes interact;

- the /r/ of the plural {-er} is deleted (*termos-er=ne* → '*termosene*');
- epenthetic [e] is added when monosyllabic stem and no plural suffix (*tingØ-e=ne*);

As we see, for both Swedish and Norwegian, the definite plural

² In Norwegian dialects there are two types of gender systems, those with two (common gender and neuter) or those with three genders (masculine, feminine and neuter). We chose a two-gender system for simplicity of illustration here. The same would hold true for a three-gender system.

³ There is also a special definite plural marker for a handful of nouns: {=a}_{NEUTER} e.g. *barn=a* 'the children', *eple=ne/epl=a, år=ene/år=a* 'the years'.

ending is added *after* the indefinite plural suffix: Swed. *månad-er*_{INDEF.PL'} *månad-er=na*_{INDEF.PL+DEF.PL'}, Norw. *måned-er*_{INDEF.PL'} *måned-e(r)=ne*_{INDEF.PL+DEF.PL'}. For purposes of accent assignment, we ask the same question as we did for the definite singular suffix, viz. can the addition of the definite plural ending change the accent assignment? The answer is no. In (11) we list monosyllabic nouns which do not have an overt syllabic suffix in the indefinite plural. The nouns are therefore accent 1 in both the singular and the plural. And as we expect, neither the addition of the definite singular nor definite plural causes the accent of the nouns to change.

- (11) Swedish and Norwegian definite singular and plural
Accent 1 singulars: Monosyllabic sg. & pl.

Sw	Sg	Sg.def.	Gloss	Pl.indef.	Pl.def.
neuter	bi ₁	bi=et ₁	'bee/the'	bi-n ₁	bi-n=a ₁
	knä ₁	knä=t ₁	'knee/the'	knä-n ₁	knä-n=a ₁
	hus ₁	hus=et ₁	'house/the'	hus-n > hus ₁	hus=en ₁
	barn ₁	barn=et ₁	'child/the'	barn-n > barn ₁	barn=en ₁
common	sko ₁	sko=n	'shoe/the'	sko-r ₁	sko-r=na ₁
	man ₁	mann=en ₁	'man/the'	män-Ø ₁	männ=en ₁
	gås ₁	gås=en ₁	'goose/the'	gäss-Ø ₁	gäss=en ₁
Nw					
neuter	år ₁	år=et	'year/the'	år-Ø,	år=ene ₁ , år=a ₁
	hus ₁	hus=et ₁	'house/the'	hus-Ø ₁	hus=ene ₁
	barn ₁	barn=et ₁	'child/the'	barn-Ø ₁	barn=a ₁
common	ting ₁	ting=en ₁	'thing/the'	ting-Ø ₁	ting=ene ₁
	mil ₁	mil=en ₁	'mile/the'	mil- Ø ₁	mil=ene ₁
	gås ₁	gås=en ₁	'goose/the'	gjess-Ø ₁	gjess=en ₁

The nouns in (11), will always surface with accent 1, with or without definiteness. We will see below that in Swedish these monosyllabic nouns are lexically unspecified, but in Norwegian, some of them are indeed lexically specified for accent 1. The difference in lexical specification in monosyllabic nouns becomes evident in compound accent assignment as we will see in section (3). In (12) we list disyllabic nouns that are specified for accent 1 in both Swedish and Norwegian. And we see that in the definite forms as well as in the plural indefinite, the nouns always surface with accent 1.



(12) Disyllabic nouns, accent 1 specified

Sw	sg	sg.def.	Gloss	pl.indef.	pl.def.
neuter	'pěntry ₁	'pěntry=t ₁	'pentry/the'	'pěntry-n ₁	'pěntry-n=a ₁
common	'mÿstiker ₁	'mÿstiker=n ₁	'mystic/the'	'mÿstiker-Ø ₁	'mÿstiker=na ₁
	'těrmos ₁	'těrmos=en ₁	'thermos/the'	'těrmos-ar ₁	'těrmos-ar=na ₁
	'dőktor ₁	'dőktor=n ₁	'doctor/the'	dok'tør-er ₁	dok'tør-er=na ₁
	te'äter	te'äter=n	'theater/the'	te'ät-r-ar	te'ät-r-ar=na
Nw					
neuter	te'äter ₁	te'äter=et ₁	'theater/the'	te'ät-r -e ₁	te'ät-r-e=ne ₁
	pla'tã ₁	pla'tã=et ₁	'plateau/the'	pla'tã-er ₁	'platã-e=ne ₁
common	'vïlla ₁	'vïlla=en ₁	'villa/the'	'vïlla-er ₁	'vïlla-e=ne ₁
	'těrmos ₁	'těrmos=en ₁	'thermos/the'	'těrmos-er ₁	'těrmos-e=ne ₁

In (13), unlike (11), we list monosyllabic nouns which show a different pattern of alternation. We have seen some of these nouns in (7) and (8). Here in (13) we see a clear contrast in accent between the indefinite singular and the definite plural.

(13) Monosyllabic singulars & disyllabic plurals, no lexical specification

Sw		sg	sg.def.	Gloss	indef. pl	pl.def.
	a.	häst ₁	häst=en ₁	'horse/the'	häst-ar ₂	häst-ar=na ₂
	b.	stol ₁	stol=en ₁	'chair/the'	stol-ar ₂	stol-ar=na ₂
with umlaut	c.	bok ₁	bok=en ₁	'book/the'	böck-er ₁	böck-er=na ₁
Nw						
	a.	hest ₁	hest=en ₁	'horse/the'	hest-er ₂	hest-e=ne ₂
	b.	stol ₁	stol=en ₁	'chair/the'	stol-er ₂	stol-e=ne ₂
with umlaut	c.	bok ₁	bok=en ₁	'book/the'	bø+k-er ₁	bø+k-e=ne ₁

The addition of the indefinite plural suffix results in accent 2, contrary to the singular definite; cf. (13a-b). Since the definite plural ending is added *after* the indefinite plural, the accent of the former is the same as that of the latter. That is, the definite plural takes on the accent of the indefinite plural form. The Swedish and Norwegian nouns in (13c) differ from (13a-b). Here, as we noted in (9) and (10), the indefinite plural ending triggers umlaut and is lexically specified for accent 1. Thus, despite that this suffix adds a second syllable, since it is lexically specified it does not change the accent and the nouns remain accent 1 in the plural. In sum, the plural definite causes no change in accent; whatever accent the

indefinite plural form has, is maintained in the definite form as well.

We now turn to disyllabic nouns which normally always surface with accent 2. According to what we have seen so far, we expect no accent change with any of the definite forms.

(14) The addition of definite articles and plural suffixes to accent-2 singulars

Sw	Sg	Sg.def.	Gloss	Pl.indef.	Pl.def.
neuter	'flöde ₂	'flöde=t ₂	'flow/the'	'flöde-n ₂	'flöde-n=a ₂
	'päron ₂	'päron=et ₂	'pear/the'	'päron- Ø ₂	'päron=en ₂
common	'flaska ₂	'flaska=n ₂	'bottle/the'	'flask-or ₂	'flask-or=na ₂
	'gubbe ₂	'gubbe=n ₂	'old man/the'	'gubb-ar ₂	'gubb-ar=na ₂
	'flicka ₂	'flicka=n ₂	'girl/the'	'flick-or ₂	'flick-or=na ₂
	'månad ₂	'månad=en ₂	'month/the'	'månad-er ₂	'månad-er=na ₂
Nw					
neuter	'eple ₂	'eple=t ₂	'apple/the'	'eple-r ₂	'eple=ne ₂
common	'flaske ₂	'flaske=n ₂	'bottle/the'	'flaske-r ₂	'flaske-(r)=ne ₂
	'kirke ₂	'kirke=n ₂	'church/the'	'kirke-r ₂	'kirke-(r)=ne ₂
	'rekke ₂	'rekke=n ₂	'row/the'	'rekke-r ₂	'rekke-(r)=ne ₂
	'måned ₂	'måned=en ₂	'month/the'	'måned-er ₂	'måned-e(r)=ne ₂

According to our analysis, the nouns in (14) are lexically unspecified and are assigned default accent 2. The addition of an indefinite plural suffix or zero suffix makes no difference. And certainly the addition of the definite endings have no effect on the accent.

One might argue that the difference between the definite singular markers and the indefinite plural is that the latter adds a syllabic element, whereas the former consists of a consonantal element only, with an epenthetic vowel added later. Consequently, no disyllabic domain is provided for the assignment of accent 2 in the singular definite forms of monosyllables. This is what would explain the difference between *hästen/hesten*₁ (DEF. SG) and *hästar/hesten*₂ (INDEF. PL) forms; cf. examples in (13a) and (13b). However, this explanation does not explain all the facts. Even if we assume that the definite singular ending is a consonant that receives an epenthetic vowel, it is difficult to assume the same for the definite plural. Consider words like Swedish *bi* or *knä* where the indefinite plural does not add a vocalic suffix, giving *bi-n*, *knä-n*. Being monosyllabic, the indefinite plural form also has accent 1. However the definite plural adds a full vocalic suffix, *bi-na*, *knä-na* (cf.11) and there is no change in accent; i.e. the disyllabic definite plural forms still have accent 1.

Instead, the hypothesis we want to entertain is that the definite markers in Swedish and Norwegian are enclitics, and enclitics – irrespective of their syllabic structure – are transparent to accent assignment. They take the accent of the word they attach to. Accent assignment as we perceive it, is given in (15).

(15) Stress & accent assignment with DEF markers in Central Swedish (Norwegian is similar)

a. Analysis of definite markers (singular)

ACC. ASSIGNMENT is word domain

Lexical representation	Stress & accent assig.	Cliticisation & epenthesis	Definite singular
/hus/	'hus ₁	'hus ₁ =et	'huset ₁
/häst/	'häst ₁	'häst ₁ =n	'hästen ₁
/flicka/	'flicka ₂	'flicka ₂ =n	'flickan ₂
/tërmos/	'tërmos ₁	'tërmos ₁ =n	'termosen ₁

b. Analysis of definite markers (plural)

Lexical repres.	Plural	Stress & acc. assig.	Cliticisation	Definite plural
/hus/	hus-Ø	'hus ₁	'hus ₁ =en	'husen ₁
/häst/	häst-ar	'hästar ₂	'hästar ₂ =na	'hästarna ₂
/flicka/	flick-or	'flickor ₂	'flickor ₂ =na	'flickorna ₂
/tërmos/	tërmos ₁ -ar	'tërmosar ₁	'tërmosar ₁ =na	'tërmosarna ₁

The most important steps for accent assignment and cliticization are summarized in (16).

(16) Crucial steps in encliticization and accent assignment

a. monosyllabic words in singular and plural: default accent 1

- /hus/ is default A1 because monosyllabic
- add {=et} and it remains A1 because enclitic (thus transparent)
- no plural suffix thus remains monosyllabic and A1
- add definite plural clitic {=na} and it remains A1 (transparent)

b. monosyllabic singulars, disyllabic plurals: default accent 1

- /häst/ is default A1 because monosyllabic
- add {=en} (def. pl.) and it remains A1 because enclitic (thus transparent)
- add {-er} plural suffix and it becomes A2 because disyllabic
- add {-er} plural plus {=na} DEF, we have a A2 definite plural because still disyllabic

- c. disyllabic words specified for lexical accent 1
 - [tǝ́rmos]_ω=en comes with lexical accent 1 – always remains A1 even in the plural: tǝ́rmos-ar and definite plural tǝ́rmos-ar=na
- d. disyllabic words with default accent 2
 - /flaska/ remains accent 2 throughout because already disyllabic
 - flaska=n₂, flask-or₂, flask-or=na₂

3. COMPOUNDS AND CLITICS

In what follows, we will try to show that not only are the definite singular and plural really clitics, in the sense that they are insensitive to accent assignment, but that the genitive {s} behaves in the same way. The critical data comes from compounds. In (17) we see that in Swedish, stressed prefixes (in contrast to unstressed prefixes lexically specified for accent 1) and compounds *always* bear accent 2.

- (17) Accent assignment in Central Swedish stressed and unstressed prefixed words and compounds

Compound rule: 'ω ω → accent 2

Underlying forms	Accent assignment	Gloss
(('falla) _ω	postlexical accent 2	'to fall'
(({be ^z } {'fall-a}) _ω	Lexical accent 1 dominates	'to pay '
(({'an-}) _ω (('fall-a) _ω) _ω	Compound accent 2	'to attack'
(({'an-}) _ω ({be ^z } {'fall-a}) _ω) _ω	Compound accent 2	'to recommend'
(({häst}) _ω ({hov}) _ω) _ω	Compound accent 2	'horse's hoof'

This is not the same for Norwegian. Norwegian stressed verbal prefixes are lexically specified for accent 1 and the lexical accent dominates.

- (18) Analysis of complex verbs in Standard East Norwegian

Underlying forms	Accent assignment	Gloss
(('fall-e) _ω	postlexical accent 2	'to fall'
(({be ^z } {'fal-e}) _ω	Lexical accent 1 dominates	'to pay '
(({'ǎn-} {fall-e}) _ω	Lexical accent 1 dominates	'to attack'
(({'ǎn-} ({be ^z } {fal-e}) _ω) _ω	Lexical accent 1 dominates	'to recommend'

In contrast to Swedish, the compound accent assignment in Norwegian is sensitive to lexical accent of the first member (cf. Lahiri et al. 2005). The compound accent rule of Norwegian is given in (19).

- (19) Compound accent in Standard East Norwegian
 [ǒ ω] → accent 1 (first word is lexically specified)
 else, [ω ω] → accent 2 (like Central Swedish)

In (20) we have examples of lexically specified and unspecified first members. In (20) *'kirke* is not specified while *'åksje* is. Consequently, irrespective of the accent of the second element of any compound, all compounds with *kirke* bear accent 2, and all compounds with *åksje* carry accent 1.

- (20) Norwegian compounds: Polysyllabic first element with accent 1 and 2

Lexical representation	First element	Second element	Compound	Gloss of compound
/kirke/	'kirke ₂	'tårn ₁	'kirke,tårn ₂	'church tower'
		'orgel ₁	'kirke,orgel ₂	'church organ'
		'tjener ₂	'kirke,tjener ₂	'sexton'
/åksje/	'åksje ₁	'bank ₁	'åksje,bank ₁	'stock bank'
		kapi'tal ₁	'åksjekapi,tal ₁	'stock capital'
		'marked ₂	'åksje,marked ₁	'stock market'

In the examples in (21), the first member of the compounds are monosyllabic. Notice that all compounds in (21) with *land* as the first member are accent 2 regardless of the accent of the second member. This is not so for compounds where the first member is *skø*. Here, *all* compounds have accent 1. The similarity with the lexically marked disyllabic words in (12) are too striking to be considered accidental. Our claim is that certain monosyllabic words like *skø* are lexically specified for accent 1. Consequently, by the compound accent assignment rule in (19), all compounds with *skø* bear accent 1.

- (21) Norwegian compounds: Monosyllabic first element with accent 1 and 2

Lexical representation	First element	Second element	Compound	Gloss of compound
/land/	'land ₁	'kart ₁	'land,kart ₂	'map'
		'tunge ₂	'land,tunge ₂	'peninsula'
		'handel ₁	'land,handel ₂	'general store'

/skø/	'skø ₁	'krem ₁	'skø,krem ₁	'shoe cream'
		'såle ₂	'skø,såle ₁	'sole of a shoe'
		fa'brikk ₁	'skøfa,brikk ₁	'shoe factory'

Now we turn to the critical data for our claim, viz. compounds with linking morphemes. In (22) we list compounds with linking {-e}.

(22) Norwegian compounds with linking {-e}

Accent 1	Gloss	Accent 2	Gloss
land	'land'	land mann	'farmer'
		land-e merke	'landmark'
		land kart	'country map'
		land bruk	'agriculture'
kjøp	'buy'	kjøp mann	'tradesman'
		kjøp-e tvang	'obligation to buy'
løp	'run'	løp-e trening	'running practice'

In (22) we can see that if no accent is specified on the first member, we get regular compound accent 2 with or without the linking morpheme {-e}. The picture changes when we compare compounds with linking {-s}, as in (23):

(23) Norwegian compounds with linking {-s} and {-e}

Accent 1	Gloss	Accent 2	Gloss
land	'land'		
land-s mann	'compatriot'	land mann	'farmer'
		land-e merke	'landmark'
		landbruk-s høy skole	'agricultural school'
alder (/aldr/)	'age'		
alder-s klasse	'age group'	alder dom	'old age'
alder-s heim	'retirement home'		
løp	'run'		
løp-s trening	'practice for a race'	løp-e trening	'running practice'

If we compare *løpstrening*₁ vs. *løpetrening*₂, we see that the only difference is in the linking morpheme. If the linking morpheme is {-s}, and it adds to a word which would bear accent 1 in isolation, the compound also bears accent 1. Thus, there is nothing particular about the {-s}; it does not trigger or influence accent assignment. It simply keeps the accent of the

word or compound it attaches to. So for instance, *landbruk-s-høyskole* bears accent 2 but includes the linking {-s}. But *landbruk* happens to be accent 2; hence the entire compound with {-s} is accent 2. Nor is it the case that compounds with {-e} bear accent 2 because it happens to add a syllabic element. Compare *landmann*₂ and *landsmann*₁, the former has two words each of one syllable and bears accent 2. The latter has two words each of one syllable and has accent 1. The fact that there are two syllables without lexical accent in a compound does not automatically lead to accent 2. The nature of the domain to which the {-e} and {-s} attach is the determining factor. The {-e} in *landemerke* is added before word-level accent assignment, while the {-s} in *landsmann* is added after word-level accent assignment, and hence {-s} is added to an accent 1 word (*land*). Our account for the linking morphemes is summarized in (24).

- (24) Linking morphemes in Norwegian compounds
 {-e} is a suffix → tonal assignment after suffixation and compounding.
 {=s} is a clitic → tonal assignment before cliticization and compounding.

Accent assignment in compounds is shown in (25):

- (25) Compounding with {-e} and {=s}
- | | |
|---|----------------------------------|
| Word level | |
| land | [ω] default accent 1 |
| land mann | [ω ω] compound accent 2 |
| land bruk | [ω ω] compound accent 2 |
| land-e merke | [ω ω] compound accent 2 |
| Phrasal level (after accent assignment) | |
| [land] ₁ =s [mann] ₁ | [(ω ₁)=s ω] accent 1 |
| [landbruk] ₂ =s [høy skole] ₂ | [(ω ₂)=s ω] accent 2 |

Our prediction is that since {=s} is a clitic, and it takes the accent of the element it attaches to, if the first word is lexically specified, *all* compounds will be accent 1. Critical examples for such compounds are given in (26).

- (26) Compounds with initial accent 1 specified word

Specified accent 1	Gloss	compare
bÿ	'city'	land ₁
bÿdel ₁	'part of city'	landbruk ₂
bÿdel-s utvalg ₁	'city representative'	landbruk=s høyskole ₂

Thus, the enclitic {=s} takes on the accent of the word and it affects compound accent; the linking morpheme {-e} behaves like a suffix, and is attached before accent assignment.

Now we return to our definite clitics. While there is no doubt expressed in the syntax literature that {=s} is a clitic, the definite markers are assumed not to be clitics: «...whatever we call the two extremes: 'affix' and 'clitic', 'morphological element' and 'syntactic element', or 'non-phrasal' and 'phrasal', it is clear that Swedish DEF is to be found at the 'affix' ('morphological' or 'non-phrasal') end of the scale» (Börjars 1992: 22). Our assumption is that {=s} and the definite markers have the same status.

One argument put forward by Börjars (1994: 232) is that the definite marker does not have the typical position of a clitic. This is shown in (27).

- (27) Position: Does not have the typical position of a clitic (cf. Klavans 1985) DEF, the host of which ought to be the NP, can be added to either edge of the phrase:

Swedish (clitic a-typical position)

- a. [gris-en]_{NP}
pig-DEF
- b. [gamla smutsiga gris-en]_{NP} *right word edge*
old dirty pig-DEF
- c. [gris-en [med smutsigt tryne] [som tycker om gröt]]_{NP} *left word edge*
pig-DEF with a dirty snout who likes porridge

Affix typical position: here the DEF attaches to the first word of the phrase only when there is no premodification; to the final word only when there is no postmodification.

The second argument in support of suffix – like behaviour of the definite article is selectivity. For clitics, as long as positional criteria are fulfilled, the syntactic category or morphological features of the host word are not important. An affix can only attach to an item with particular syntactic and morphological characteristics. The definite marker must be added to nouns, not to adjectives, prepositions, verbs, or particles, as we see in (28).

- (28) Selectivity of the definite marker in Swedish (from Börjars 1994: 234)
- flicka-n med gula byxor
girl-DEF with yellow trousers
- * flicka med gula byxor-na
 * flicka med gula-n byxor
 * flicka med-na gula byxor

A further argument put forth by Börjars (1994: 236-238) is that clitics should not show arbitrary gaps, but the definite marker does. Her examples are given in (29).

- (29) «Arbitrary gaps» for the definite (from Börjars 1994:237-238)
- i. some plural nouns in Swedish cannot combine with DEF:

fakta, akademici

 - a. fakta 'fact-PL' *faktana
 - b. akademici 'academic-PL' *academicina
 - ii. geographical names (usually foreign) - sometimes they can take the DEF, sometimes not
 - a. Rhen flyter genom Bonn
Rhine flows through Bonn
 *Rhen-en
 Floden Rhen
 - b. Themsen flyter genom London
Thames-the flows through London
 Floden Themsen

Neither (29i) or (29ii) are particularly convincing examples. The class of words ending in [i] and [a] are treated as a class for all sorts of reasons. It is the entire class which does not take the definite, and therefore not an arbitrary gap. As for the names of rivers, the river Thames (also marked in British pronunciation) is called «*Themsen*». There is no «**Thems*» to which the definite can be added.

Finally, Börjars suggests that one should expect only one DETERMINER per noun phrase. The definite ending appears to behave like a definite marker, but it obligatorily co-occurs with syntactic definite determiners under two circumstances.

- (30) Double determiners in Swedish (from Börjars 1994:228)
- a. den mus-en/*mus
that mouse-DEF
 - b. den här mus-en/*mus
this mouse-DEF

This is not unusual in Scandinavian (cf. Plank 1995). Danish and Norwegian show similar properties.

- (31) Danish and Norwegian: double determination
- i. Danish: definite occurs in complementary distribution with determiners (from Börjars 1994: 242)
 - a. mand-en
man-DEF
 - b. den unge mand/*mand-en
the young man / man-DEF
 - c. den mand/*mand-en
that man / man-DEF
 - d. denne mand/*mand-en
this man / man-DEF
 - ii. Norwegian: same as Swedish, except that even *denne* must co-occur (also called compound definite) (from Börjars 241)
 - a. denne bok-en
this book-DEF
 - b. bok-en
book-DEF
 - c. den gode bok-en
the good book-DEF

What is at issue here is the possibility of double determination and the hypothesis is that one of them ought to be an affix. However, the existence double definites per se is not an adequate argument against a clitic analysis. Plank (1995, 2003) gives several examples of double determiners. Neither does the linear order of the definite with the plural support that the indefinite plural and definite are both affixes. As we saw above in (11), the definite plural always comes *after* the indefinite plural and hence the definite fits the linear order criterion, viz., that an affix attaches to its stem in the lexicon, whereas a clitic attaches to its host word at a later stage, outside the lexicon (Klavans 1985, Zwicky & Pullum 1983).

(32) Linear order

Consider: stol-ar=na₂ stem → PL → DEF 'chairs/the'
 stol-ar=na=s₂ stem → PL → DEF → POSS

Linear order says nothing against a clitic analysis of the definite. Recall that, phonologically, {=s} behaves as a phrasal affix insensitive to accent assignment just like the definite. We can now combine the compound evidence with the definite marker. In (33) we add the definite markers to our various compound forms.

- (33) Combined evidence: how do we combine the syntactic and tonal evidence?
 a. Can compounds take definite articles?

Accent 1	Gloss	Accent 2	Gloss
landsmann	'compatriot'	landmann	'farmer'
landsmann=en	DEF SINGULAR	landmann=en	DEF SINGULAR
landsmann=ene	DEF PLURAL	landmann=ene	DEF PLURAL

- b. Do compounds with specified accent, with {=s}, differ in terms of DEF?

Accent 1	Gloss	Accent 2	Gloss
býdel	'part of a city'		
býdel=en	DEF SINGULAR		
býdel=ene	DEF PLURAL		
aldersklasse	'age group'	lande,merke	'landmark'
aldersklasse=n	DEF SINGULAR	lande,merke=n	DEF SINGULAR
aldersklasse=ne	DEF PLURAL	lande,merke=ne	DEF PLURAL
býdelsutvalg	'city representative'	'arbeids,utvalg	'labour committee'
býdelsutvalg=et	DEF SINGULAR	'arbeids,utvalg=et	DEF SINGULAR
býdelsutvalg=ene	DEF PLURAL	'arbeids,utvalg=ene	DEF PLURAL
		landbruks,høyskole	'agriculture school'
		landbruks,høyskole=n	DEF SINGULAR
		landbruks,høyskole=ne	DEF PLURAL

As we can see quite explicitly in (33), no matter which definite marker is added, the compound accent remains as predicted. There is no evidence that the definite endings are at all sensitive to the lexical accent assignment domain.

In sum, phonologically there is a tonal difference between {-er} plural and {-e} vs. DEFINITE CLITICS and {=s}. The syntactic evidence seems to suggest that {=s} stands out and all the others behave as affixes. Phonological evidence at least suggests that the definite markers sound rather definitely like a clitic! In fact, perhaps they walk like morphology, but talk like phonology.

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SUMMARY: L'evidenza sintattica suggerisce che la desinenza del genitivo {s} in svedese e norvegese si comporta come un clitico, mentre le marche del definito – anche se storicamente sono degli enclitici – sono oggi diventate dei suffissi. In questo articolo si propone invece evidenza tonale che indica che, sia le marche del definito, sia il morfema di raccordo {s} (derivato dal genitivo), si comportano allo stesso modo, in contrasto con la marca dell'indefinito plurale {Vr} il morfema di raccordo {e}. I dati fonologici suggeriscono che le marche del definito ed il morfema di raccordo {s} sono aggiunti *dopo* l'assegnazione dell'accento, mentre

l' indefinito plurale e il morfema di raccordo {e} formano un dominio sul quale l'accento ed il tono sono applicati. I dati provengono dai fenomeni di assegnazione dell'accento tonale in svedese e norvegese, con particolare attenzione ai composti del norvegese.

SUMMARY: Syntactic evidence suggests that the genitive ending {s} in Swedish and Norwegian behaves like a clitic, whereas the definite endings – although historically enclitics – now have become suffixes. In contrast, we provide tonal evidence indicating that both the definite markers and the linking-{s} morpheme (derived from the genitive) pattern together as opposed to the indefinite plural suffix {Vr} and the linking-{e} morpheme. The phonological evidence suggests that the definite markers and linking-{s} are added *after* accent assignment while the addition of linking-{e} and indefinite plural form a domain to which stress and accent apply. The critical data comes from tonal accent assignment in Swedish and Norwegian, with particular focus on Norwegian compounds.