Declension Class
and the Norwegian Definite Suffix*

Peter Svenonius†
CASTL, University of Tromsø – The Arctic University of Norway
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Abstract

Some Nordic languages have three genders (e.g. Icelandic), while others have only two (e.g. Danish). Norwegian provides many examples of two and three gender dialects, allowing a microcomparative study. I show how a gender can be reanalyzed as a declension class when semantic generalizations about gender class membership are weak and morphological indicators of a gender distinction are poor. Under these conditions, learners do not posit a syntactically visible noun class feature (gender), but rather one which is visible only to allomorph selection (declension class), which I suggest is located in the phonological part of lexical entries. The analysis is developed within the confines of a theory which observes a strict division between syntactic and phonological information.

Keywords: gender, declension class, Norwegian, morphology, allomorphy, lexical entry, Distributed Morphology, definite suffix, clitic

1 Introduction: Syntactic structures and their exponence

When restrictions on possible natural languages are correctly identified, important progress is achieved. One of the most impressive classes of restrictions discovered so far, in this author’s opinion, concerns the separation of syntactic and phonological information. In general, phonology does not reference syntactic or semantic content, with certain major and minor exceptions, the major

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Similarly, the access of phonological information by syntax is remarkably restricted.\footnote{Cf. Selkirk (1984), Nespor and Vogel (1986), Inkelas (1989), Hayes (1989), and many others. Even category-specific phonological phenomena appear to be restricted to suprasegmental and prosodic effects, e.g. stress placement being more restricted in verbs than in nouns, cf. Smith (2011).}

The clearest point of contact between syntax and phonology is in the lexical item itself—especially given the mainstream assumption that functional morphemes have lexical entries, e.g. the definite marker -(e)n in Norwegian words like those in (1)\footnote{See Zwicky and Pullum (1986a,b); Pullum and Zwicky (1988). Prosody sometimes appears to bear on word order, see Shih, this volume, but this usually seems to involve preferences among two structures which are grammatical options. Another class of apparent exceptions involves the role of prosody in clitic placement, see Zec this volume. This is sometimes analyzed as the sensitivity of spell-out of movement copies to the requirements of clitics e.g. Bošković (2001) and others. Interestingly these examples also involve prosody. Completely absent appear to be examples where e.g. a phonological need for an onset causes a syntactic change in word order, or a syntactic operation is restricted to only apply to phrases starting with glides.} has a lexical entry like that in (2) (compare Anderssen 2007, 2012).\footnote{The definite marker written -n or -en has phonologically predictable surface realizations /n/ (often syllabic), /en/, and /an/. Because their distribution is phonologically motivated, they need not be treated as (listed) allomorphy but can be derived by phonology from a single underlying representation.}

(1) a. gutt ‘boy’ gutten ‘the boy’
   b. mann ‘man’ mannen ‘the man’
   c. klovn ‘clown’ klovnen ‘the clown’
   d. stol ‘chair’ stolen ‘the chair’
   e. tanke ‘thought’ tanken ‘the thought’
   f. sti ‘path’ stien ‘the path’

(2) \( <D, \text{DEF}> \overset{\Leftrightarrow}{/n/} \)

A lexical entry like that in (2), by convention, allows the regular association of a syntactic D node bearing a syntactic DEFinite feature with the phonological exponent /n/. Thus it is primarily a pairing of syntax with phonology. Any adequate theory must of course be able to accommodate lexically specified mismatches, such as irregular morphology or idiomatic meanings. Such examples show that there is more to lexical entries than a simple pairing of sound and meaning like that in (2).

Syntactic features like DEF have semantic correlates, and at least ‘lexical’ words also have nonsyntactic ‘conceptual’ content. They may also have additional features which bear on usage, such as dimensions of affect. However, such features do not seem to be categorical, and do not seem to interact directly with grammatical systems, so conceptual and affective properties will be...
set aside for the purposes of this discussion. Central to the discussion will be
gender and declension class, which are categorical and interact directly with
systems of grammar. The question is where such features are located in lexical
entries of the type in (2).

The issues can be illustrated by comparing (1) and (2) with a set of Norwe-
gian nouns which take a different marker, -a, for definiteness, as illustrated in
(3).

(3) a. jente ‘girl’ jenta ‘the girl’
   b. dame ‘woman’ dama ‘the woman’
   c. dokke ‘doll’ dokka ‘the doll’
   d. hylle ‘shelf’ hylla ‘the shelf’
   e. bok ‘book’ boka ‘the book’
   f. skje ‘spoon’ skjea ‘the spoon’

One possibility is that -a spells out an additional feature, F, present on Ds
associated with nouns like those in (3), as well as spelling out D and DEF.

(4) \(<D, DEF, F> \Leftrightarrow /a/\)

Alternatively, -a is a contextually conditioned allomorph of the definite marker.
A standard representation for allomorphy is as in (5) (for illustrative purposes,
I am leaving out other forms of the Norwegian definite marker for the moment).
(5) states that a D with the feature DEF is spelled out as /a/ in the context
following “F,” and as /n/ elsewhere; by convention, whichever exponent has the
most general context for insertion will be the ‘elsewhere’ exponent (Kiparsky
1973).

(5) \(<D, DEF> \Leftrightarrow \{ /a//F
                 /n/ \text{ (Elsewhere)} \}

A standard assumption in Distributed Morphology is that contextual restric-
tions like the one in (5) can reference syntactic as well as phonological informa-
tion (see e.g. Halle and Marantz 1993; Bobaljik 2000; Bonet and Harb our 2012).
This, among other things, makes it difficult to know when the best analysis of
an alternation like the one seen in tanke-n versus bok-a is more like that in (2)
and (4), or more like that in (5).

Diagrams like those in (2), (4), and (5) originate as rewrite rules (see Chom-
sky 1957), in effect allowing each morpheme to represent a potentially distinct
operation. This means there are many operations relating syntax to phonology,
in which case it is surprising that the actual interaction should be so limited.

I suggest that advantage stands to be gained from thinking of lexical en-
tries representationally, rather than as rules or operations. If syntax-phonology
pairings are static associations of information from two distinct modules, then
the zero hypothesis is that there is a single operation of lexical insertion or as-
association (possibly divided into two or more parts; see e.g. Bye and Svenonius
2012). This seems to be more consistent with the observed limitations on the
syntax-phonology interface. In keeping with the general modular separation of
syntax and phonology, syntactic information can only be associated with the syntactic context of insertion on the left, while phonological information can only be associated with the exponent on the right.

If the diagrams are rotated, then syntactic information and phonological information can be represented on separate horizontal tiers. In the diagram below, I use wavy lines (rather than a double arrow) to represent the exponent relation (compare (2) and (4)).

Angle brackets suggest that the syntactic features in the entry are structured, not simply sets.

5 To capture the fact that the two entries refer to the same D and the same def, this could alternatively be represented with distinct association lines for each feature.

(i)  
\[
\begin{array}{c}
\text{D} \\
/\text{n/}
\end{array}
\quad
\begin{array}{c}
\text{Def} \\
/\text{a/}
\end{array}
\quad
\begin{array}{c}
\text{F} \\
/\text{n/ (Elsewhere)}
\end{array}
\]

Here, the wavy lines indicate that /n/ spells out both D and def, and /a/ spells out D, def, and F. The operation of lexical insertion would be constrained to allow each syntactic feature in a given manifestation (e.g., a phrase) to be associated with only one exponent, so that -n and -a would not both be manifested for a single D.

6 I do not mean to distinguish the syntactic operation Agree from morphological agreement. It is sometimes suggested that morphological agreement is postsyntactic, e.g., Bobaljik 2008. However, morphological agreement is sensitive to syntactic constituency, locality, categories, and features, and so the most parsimonious assumption is that it applies in the syntax.

7 Again, an alternative notation could be adopted using multiple association lines, as in (i), as long as the operation of lexical insertion is stated to force a choice between the two exponents.
This is meant to allow the insertion of either of -n or -a into a syntactic D node with a DEF feature, with an additional condition on the -a allomorph.

Since the condition on the use of the -a allomorph is stated on the lower tier, it is not visible to the syntax, but must be legible to the system operating on exponents, the phonological system.

Thus the representations in (6) and (7) clarify the status of conditions on insertion, compared to (5): conditions on insertion must either be restricted to the upper tier or to the lower tier, since the only point of contact between the two is the association itself, represented by the wavy line. However, for reasons of compactness and familiarity I will revert to the traditional format in (5) for lexical entries in what follows, taking care to keep syntactic and phonological information on separate sides of the association arrow.

I will argue in this paper that some Norwegian dialects have something more like (6) (= (2) + (4)), where F is visible to the syntax; these are the three-gender dialects, in which F is the feminine gender. Three-gender systems are conservative, in that the feminine gender is preserved from the three-gender system of Old Norse. Icelandic, Faroese, and Övdalian also preserve the old three-gender system.

As is common among Indo-European languages, the Nordic masculine-feminine distinction corresponds partly to natural gender, as seen in (1) and (3) above, but is also largely lexically arbitrary. In this sense, it can be called pseudosemantic. It is visible to the syntactic system, in that it controls concord in syntactically defined environments, but has no other bearing on syntax; in this sense it can be called pseudosyntactic.

Other Norwegian dialects, I will argue, have something more like (7) (= (5)); these are the two-gender dialects, in which F is a declension class, not visible to the syntax. Danish and Swedish similarly are two-gender languages with several declension classes. Declension classes in the Nordic languages have characteristic phonological profiles which admit of many exceptions. For example, F-declension nouns in Norwegian most typically end in an unstressed vowel, /e/ or /a/ depending on dialect, as do the first four words in (3); however, some F-declension words do not, cf. (3)e-f, and some nouns ending in unstressed /e/ or /a/ are not F-declension, cf. (1)e. I will argue that although it does not have a consistent surface phonetic realization, declension class is nonetheless visible to the phonological system in the underlying representation; it is in this sense pseudophonological.

Thus, F has migrated from one component of the grammar to the other in the history of various Nordic languages, meaning that it has gone from being what we call a gender to being what we call a declension class, and Norwegian provides a microcomparative window on the difference.

The total separation of the two kinds of information is restrictive in ruling out a number of options. Consider the following Impoverishment rule proposed by Müller (2005, 245) for Icelandic:

(8) \[\text{obl} \rightarrow \emptyset / \{[-\text{pl}], [+\text{weak}]\}\]
The rule affects the feature [±oblique], a feature which on M¨ uller’s analysis is positive in nominals with dative case and negative in nominals with nominative, accusative, or genitive case. The rule deletes both the plus and minus values of this feature in the context of nonplural nouns of the weak declension. However, declension class is a nonsyntactic feature (cf. also Alexiadou 2004 and Alexiadou and M¨ uller 2008), while plural is syntactic in that it controls plural agreement on various elements in Icelandic, so this rule mixes syntactic and nonsyntactic information in an illicit way; there simply is no representation to which an Impoverishment rule like that in (8) could apply, because only lexical entries can contain both syntactic and nonsyntactic information, and even in lexical entries that information is, I will suggest here, kept strictly separate.8

Similarly, M¨ uller’s (2005) featural hierarchy which intermingles declension class features and syntactically visible features such as case and gender cannot be stated in the system I am proposing.

2 Declension class and gender

Since the number of genders in Norwegian is at issue, in this section I briefly illustrate declension class and gender using two uncontroversial examples, Icelandic with three genders and Danish with two.

As already mentioned, Icelandic has three genders, masculine, feminine, and neuter, with properties found in many other languages with gender: all nouns are classified as belonging to one of the three genders, and a handful can be used with either of two (or one of three). Masculine is the usual gender for nouns referring to males of higher levels of animacy, with exceptions, and feminine is the usual gender for nouns referring to females of higher levels of animacy, with exceptions.

Gender, by definition, controls concord on associated words (Hockett 1958; Corbett 1991). Consistently with this, Icelandic gender controls concord on a wide variety of adnominal modifiers such as demonstratives, quantifiers, numerals, adjectives, and possessive pronouns, and is also expressed in the definite marker, on pronouns, and on predicative adjectives. The three genders of Icelandic are illustrated in (9).

(9) a. Hann á stóran bíl. Hann er raður.
   he owns big.M.ACC car(M).ACC it.M is red.M.NOM
   ‘He has a big car. It is red’
   b. Hann á stóra kápu. Hún er raðð.
   he owns big.F.ACC coat(F).ACC it.F is red.F.NOM

8Inkelas, this volume, discusses a case which is very interesting for the theory defended here, from Nanti (Arawakan, Peruvian Amazonia), as described by Michael (2008). Nanti has two classes of verbs as reflected by allomorphy of the reals/irreals mood inflection. According to Inkelas, the classes are semantically arbitrary, but nonetheless the class membership is visible at a distance. Thus Nanti verb class is something like gender in the verb system. A similar state of affairs is found in more familiar languages where formally reflexive verbs constitute an arbitrary class, but the reflexive marker can be separated from the verb. A full integration of these cases into the theory defended here must await a future opportunity.
‘He has a big coat. It is red.’

He has a big beard. It is red.

Gender features are present in the syntactic structure and copied by the syntactic operation Agree, so morphemes reflecting them have this information specified in the syntactic part of their entry. For example, there is a feminine singular accusative -a on the attributive adjective in (9-b), and a feminine singular accusative -u on the noun (the nominative singular ends in -a: kápa). Thus both -a and -u are exponents of feminine singular accusative, but their distribution is determined by syntactic environment, the environment of occurring on an adjective versus occurring on a noun.9

The question of exactly how syntactic features can condition ‘contextual’ allomorphy is a complex one (see Bonet and Harbour 2012 and Gribanova and Harizanov, this volume, for some discussion). At the very least, we can be sure that Agree can copy features from one place to another, for example a functional adjectival head a[djective] might have agreement probes for φ and case, so the adjectival agreement spells out the categorial feature a along with φ and case copied from the noun phrase. Similarly, a functional nominal head n[oun] could have a φ probe, so that the nominal suffix spells out n along with φ and case.

In any case, the difference between the nominal and the adjectival exponents would have to be located on the syntactic tier, on the left-hand side of the entries below (taking singular in this case to be the absence of plural; note that these entries are only partial as they do not allow for additional exponents of feminine singular, nor for the fact that nominal -a spells out dative and genitive in addition to accusative, for a class of nouns).

\[
\begin{align*}
\langle a, f, ACC \rangle & \leftrightarrow /a/ \\
\langle n, f, ACC \rangle & \leftrightarrow /u/ 
\end{align*}
\]

Icelandic also has several declension classes, in that within a gender there are different sets of suffixes depending on the noun. For example, some feminine nouns are unlike kápa–kápu in taking no suffix in the accusative singular, with the accusative being identical with the nominative, e.g. bók ‘book.’ The difference is a matter of declension class, because it only affects suffixes on the noun itself; it is not copied to adjectives or other words at a distance.

As we saw in the case of Norwegian, there is at least a partial phonological generalization: ‘weak’ nouns like kápa tend to end in unstressed -a (in the nominative singular), and ‘strong’ nouns like bók tend to end in consonants (in the nominative singular). This could be due to a nominal category n exponent with phonological content /a/ and a particular declension class feature; feminine nouns with a different n head would not have that declension class feature.10

9There are additional exponents for feminine singular accusative in Icelandic which I set aside for the present discussion.
10This move is more appealing when there is also a semantic generalization. For example, Trosterud (2001) observes that deadjectival nominals ending in -e in Norwegian are typically
Whether or not the -a should be parsed in this way, we can assume that the ‘weak’ declension class represents a pseudophonological feature A, partly corresponding to a phonological /a/, we could improve the entry in (11) as follows.11

$$<n, f, \text{ACC}> \Leftrightarrow \begin{cases} /u//A & \\ /\emptyset/ & \text{(Elsewhere)} \end{cases}$$

In some cases declension class-sensitive allomorphs can be seen to cross-cut gender distinctions. For example, nominative plurals in -ir, -ar and -ur can be found in both feminine and masculine declensions, as illustrated in (13).

(13) Masculine gender | Feminine gender
---|---
Singular | Plural
a-declension einn bær | tveir bæj-ar
one town | two towns
i-declension einn dalur | tveir dal-ir
one valley | two valleys
weak einn bóndi | tveir bænd-ur
one farmer | two farmers

(Neuter nouns also have declension classes but show a different set of plural suffixes.)

In cases like those in (13) it is tempting to posit entries which are underspecified for gender, though the details are complex and hinge on questions of markedness and whether devices like Impoverishment are made use of. (The issue is clearer in languages like Russian, where entire declension classes more systematically cross-cut genders; see e.g. Halle 1994; Müller 2004 for Russian.) At a first pass, we could posit something like the following for -ar and -ir, taking I as the pseudophonological declension class feature borne by nouns like bæj ‘town’ (also borne by weak masculine nouns which end in unstressed /i/).

$$<\text{pl,nom}> \Leftrightarrow \begin{cases} /ar/ /I & \\ /ir/ / & \text{(Elsewhere)} \end{cases}$$

Icelandic provides an especially graphic illustration of the strict locality of declension class sensitivity, because definite-marked nouns are marked for case and number twice, and only the innermost marker shows declension-class sensitivity. This can be seen in (15), where hest ‘horse’ takes -ar but the case and number marker appearing outside the definite marker is not sensitive to the declension class of the noun.

(15) a. gest-ir-n-ir
    guest-M.PL.NOM-DEF-M.PL.NOM

---

11 Setting aside the fact that strong feminine nouns often show an umlaut alternation with the plural, where the plural might represent the underlying vowel. Also setting aside the alternative analysis whereby the strong class is marked, and the weak class unmarked.
The -ir allomorph is also the one appearing on attributive adjectives.

(16) a. lang-ir gest-ir
    *tall-M.PL.NOM guest-M.PL.NOM
    ‘tall guests’
b. stór-ir hest-ar
    *big-M.PL.NOM horse-M.PL.NOM
    ‘big horses’

Given (14), these patterns are the simple outcome of the fact that the -ar allomorph of the plural marker is specially selected under adjacency with a stem specially marked as I-class, while the -ir allomorph is the default for masculine plural.\(^\text{12}\)

I turn to Danish as an illustration of an uncontroversial two-gender language. Diachronically, the feminine and masculine collapse into a single ‘common’ gender (c), which is opposed to the neuter.\(^\text{13}\) Danish also has natural gender pronouns han ‘he’ and hun ‘she’ (and a handful of case forms thereof). As in English, these are restricted to referring to ‘high’ animates, mainly humans, and do not classify nouns, e.g. a noun phrase built from common gender politiker ‘politician’ or neuter menneske ‘person’ can be referred back to by han or hun according to whether the referent is a male or female person.

As in Icelandic, the distribution of gender features is determined by syntax, for example being sensitive to syntactic categories, syntactic constituency, and syntactic domains of locality. Thus gender features are visible to the syntactic system, and are copied by a mechanism which we can equate with Chomsky’s (2000) Agree.

An exponent like den ‘it (common gender)’ has a gender feature in its entry, governing where it is inserted; since det (/de/) is also used as an expletive, for example in clefts, it can be assumed to be underspecified for gender and number, as in (18), while plural de (/di/) ‘they’ can be assumed to be specified for number

\(^{12}\)An observation not captured under Müller’s 2005 analysis of Icelandic noun inflection, which fails to distinguish the syntactic features case, number, and gender from the morphological feature of class membership.

\(^{13}\)Following Swedish grammatical tradition, we could alternatively call this gender ‘uter’: Latin uter means ‘either (of two)’ (cf. uterque ‘both’), while neuter means ‘neither.’
but not gender. A general preference for more fully specified exponents when possible (Kiparsky 1982) will ensure that the underspecified det is not inserted in a D node specified for plural number or common gender.

(18)  a.  \(<\text{D,SG,C}> ⇔ /\text{den}/\)
b.  \(<\text{D,PL}> ⇔ /\text{di}/\)
c.  \(<\text{D}> ⇔ /\text{de}/\)

There are three main ways of forming the plural in Danish, and they can be used to identify three ‘declension classes,’ cross-cutting the genders (examples from Allan et al. 1995, 21).

(19)  \begin{array}{l|ll|ll}
       & \text{Common gender} & \text{Neuter gender} \\
\hline
\text{r-declension} & \text{en by } & \text{to by-er} & \text{et menneske } & \text{to menneske-r} \\
       & \text{a town } & \text{two towns} & \text{a person } & \text{two people} \\
\text{e-declension} & \text{en krig } & \text{to krig-e} & \text{et land } & \text{to land-e} \\
       & \text{a war } & \text{two wars} & \text{a country } & \text{two countries} \\
\text{∅-declension} & \text{en fejl } & \text{to fejl} & \text{et flag } & \text{to flag} \\
       & \text{a mistake } & \text{two mistakes} & \text{a flag } & \text{two flags} \\
\end{array}

The -\text{r} class can be assumed to be the elsewhere exponent for plural, and is the one normally found on polysyllabic words, vowel-final words, loans, and new coinages, though again there are exceptions in each category which must be learned and listed.

(20)  \(<\text{PL}> ⇔ /\text{er}/\)

In addition to the above, there are minor classes, for example \text{en konto~konti} ‘an account~accounts,’ or \text{et show~shows} ‘a show~shows.’ A few Italian loans pattern with \text{konto}, and a few English loans pattern with \text{show}. Small declension classes like this suggest that the threshold is relatively low for a learner to posit a declension class feature arbitrarily assigned to some class of nouns and referred to in the insertion context for an allomorph (especially in the presence of a phonological tendency such as ‘ends in /o/’). Thus a language might in principle have dozens of declension classes, and they can in principle be completely dissociated from gender features. A fuller entry for Danish plural markers might look something like the following.\textsuperscript{14}

\textsuperscript{14}Setting aside the possibility of decomposing the declension class features further; see Müller (2004). Adjectives exhibit an -\text{e} plural suffix. This could be handled by (21) if the feature E is also present on adjectives; it would not be copied there by concord, because Agree only sees syntactic features, but would have to be specified to appear with adjectives systematically. Alternatively, -\text{e} could be the Elsewhere case outside of nominal contexts, while -\text{er} is the Elsewhere case only for nouns, i.e. -\text{e} is not specified syntactically for the <\text{n}> feature but -\text{er} is. This would hinge on the assumption that the Subset Principle of DM would not force the selection of the more fully syntactically specified -\text{er} before considering -\text{e}. See Svenonius 2012; Arregi and Nevins 2013 for arguments that syntactically underspecified exponents remain in competition long enough for phonology to have an effect on allomorph selection.
There are some pseudophonological generalizations about the distributions of E and 0, as is typical of declension class features. One generalization is that consonant-final monosyllables tend to be E class (e.g. krig ‘war’ is typical in this regard). This generalization is unproblematic given the assumptions here because it links phonological properties to pseudophonological properties.

Another putative generalization is that consonant-final monosyllables which are neuter nouns belong to the 0 declension (e.g. flag ‘flag’ is typical in this regard). This is harder to state given the assumptions here, as it mixes levels. It could exist at some language-external level as a heuristic for learners, but should not be part of the linguistic system itself, if my proposal is correct.

3 Phonology and declension class

In the previous section I posited a number of abstract declension class features as part of phonological underlying representations. This may seem to be an unwarranted complication of the phonological component. In this section I present evidence that declension class features have properties similar to phonological features, in terms of locality, and on certain assumptions can be maintained to be well-behaved phonologically.

The way I have treated declension-class based allomorphy is to extend the mechanisms of phonologically controlled allomorphy to some abstract features in the underlying representations. Uncontroversial cases of phonologically conditioned allomorphy involve adjacency (see e.g. Nevins 2011 for an overview of phonologically conditioned allomorphy).

A simple example is the Korean conjunction marker, where the choice between wa and kwa is conditioned by the phonology of the preceding element (Chang, 1996; Lapointe, 1999; Bye, 2007).

Another example is the definite article in Spanish (Harris 1987). Feminine nouns take la in the singular. Masculine nouns take el in the singular. For reasons to be discussed, I will take the form el in Spanish to be underspecified for gender, as indicated in the gloss below.
Feminine nouns starting with a stressed /a/ take el. This is illustrated in (25-a) with agua ‘water.’ That it is feminine can be seen in that it controls feminine agreement on associated words, as seen in (25-b–c).

(25) a. el agua
   *the water*(F)
   ‘the water’

b. el agua fría
   *the water*(F) cold(F)
   ‘the cold water’

c. toda el agua
   all(F) *the water*(F)
   ‘all the water’

If the definite article is separated from the noun by a prenominal adjective, the agreeing article la is used.

(26) la misma agua
   *the same water*(F)
   ‘the same water’

This pattern can be explained if la carries a phonological condition that it not immediately precede a stressed /a/, within the smallest prosodic word. The domain must be restricted because prenominal adjectives starting with stressed /a/ do not trigger the allomorphy.

(27) la alta torre
   *the high tower*(F)
   ‘the tall tower’

Entries for la and el are given in (28).\textsuperscript{15}

(28) Spanish definite article, as an illustration of phonological selection

a. $\langle D, \text{DEF}, F \rangle \iff /la/ \ ^*_{[\bar{a} \ldots \bar{a} \ldots]}$

b. $\langle D, \text{DEF} \rangle \iff /e/\$

Further evidence for the locality of declension class sensitivity comes from languages which have phrasal morphology as well as declension classes. Such languages suggest that declension class features of the head are not visible at a

\textsuperscript{15}I am glossing over the details of the competition which allow la to be selected in all feminine cases where it is not excluded, and which allow el to remain in the competition even when the determiner bears the agreement feature feminine; see Svenonius (2012) for a more detailed analysis of a related case in French.
distance. Consider some examples from Kuuk Thaayorre, a Paman language of Australia (Gaby 2006). Kuuk Thaayorre nominals are divided into different declension classes for the purposes of case affixation (op. cit. 149ff, omitting several alternative forms). The distribution of the case allomorphs is not phonologically predictable.

<table>
<thead>
<tr>
<th>(29)</th>
<th>Declension</th>
<th>Nominative</th>
<th>Ergative</th>
<th>Dative</th>
<th>gloss</th>
</tr>
</thead>
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<tr>
<td>1</td>
<td>ngotn</td>
<td>ngotnthur</td>
<td>ngotnak</td>
<td>‘black’</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>yak</td>
<td>yaka</td>
<td>yakan</td>
<td>‘snake’</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>pam</td>
<td>pamal</td>
<td>pama</td>
<td>‘man’</td>
<td></td>
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<tr>
<td>irreg</td>
<td>kuta</td>
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<td>kutan</td>
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</tbody>
</table>

Case is marked only once in a Kuuk Thaayorre noun phrase, but not necessarily on the head noun. Case markers show phrasal distribution, at the right edge of an adjective or possessor if present (on the rightmost if more than one is present), but before demonstratives, as seen in (30) and (31). The question is whether the allomorph of a case marker reflects the declension class of the head noun or of the surface host.

In fact, the allomorph is always the one suitable for the surface host, not for any more distant element. For example, in (30), the word *pam* ‘man’ is arguably the head, but the ergative marker at the edge of the noun phrase is the allomorph appropriate for the adjacent *nhump* ‘elder.’

(30) a. pam-al ith
    *man-ERG* that
    ‘that man (ERG)’
    b. pam nhump-u ith
    *man elder-ERG* that
    ‘that old man (ERG)’ (op. cit. 287)

Similarly, in (31-b), the head noun is *kuta* ‘dog,’ but the ergative marker at the edge of the noun phrase is not -ku but rather -man.

(31) a. kuta-ku
    *dog-ERG*
    ‘dog (ERG)’
    b. kuta ngalin-man
    *dog 1DU.EXCL.POSS-ERG*
    ‘our dog (ERG)’ (op. cit. 166)

Such patterns show that it is adjacency which is relevant for declension class sensitive allomorphy, in Kuuk Thaayorre. In this sense, declension class allomorphy is typically like phonologically conditioned allomorphy, which is similarly myopic.

Thus declension classes have much the same effects as phonological features, being able to trigger allomorph selection under strict adjacency, and being invisible to the syntactic component. This is explained if declension class features are pseudophonology, abstract phonological features without consistent phonetic
For example, we saw above in (13) that some masculine nouns take a (nomi- 
native) plural in /ir/, while others take /ar/. The difference between the two 
classes of nouns is a lexically listed fact, with no syntactic consequence, just like 
the phonological shape of the root.

The solution I proposed there meant that nouns like hestur ‘horse’ have an 
abstract declension class feature ‘I’ in their phonological representation, lacking 
from noun stems with /ir/ plurals.16

(32)  a. /hest-I/ ‘horse’
     b. /gest/ ‘guest’

However, a properly constrained phonological module cannot make unconstrained 
use of nonphonological diacritics. This principle is succinctly formulated in 
Bermúdez-Otero’s (2012) PHONETIC INTERPRETABILITY HYPOTHESIS:

(33)  Phonetic Interpretability Hypothesis

The contents of phonological output representations are phonetically 
interpretable.

Note that (32-a) does not violate this formulation, since it involves an underlying 
representation. What would violate (33) would be for the diacritic ‘I’ to be 
carried over to an output representation, without any phonetic realization. If 
the phonology consistently either deletes I, or allows it to be represented as /i/, 
then there will be no phonetically uninterpretable components of the output 
representation.

The principle in (33) potentially has some very interesting consequences if 
prosodic structure reflects cyclic derivations of phonological material, as pro-
posed for example in Marantz (2001), Marvin (2002), and Newell (2008). If so, 
then a prosodic boundary, such as a word boundary, could prevent declension 
class allomorphy from applying, regardless of adjacency. This is because the cy-
cle which creates the word would have to delete the declension class features, in 
order to be consistent with (33). I will return to this point below, in a discussion 
of whether Norwegian definite markers are clitics, and whether class allomorphy 
should be able to cross the boundary between the clitic and its host.

To sum up this section, there is a class of features which are relevant to allo-
morph selection but nothing else; they are called declension class or conjugation 
class features. Their distribution often follows a phonological generalization 
to some extent, for example disyllabic nouns ending in unstressed /e/ tend to 
belong to a particular declension. For this reason they can be called pseudophonological. But these features resemble phonological features in another 

[16]The abstract I corresponds to an overt phonological /i/ in a large class of weak nouns like 
penni ‘pen,’ tími ‘hour,’ fangi ‘prisoner,’ etc. The most common plural ending for masculine 
nouns is -ar; so if numerosity corresponds to unmarkedness, then the markedness should go the 
other way, and it should be nouns like gestur ‘guest’ which are marked. However, the analysis 
laid out here more readily allows a unification of the nominal and adjectival inflections.
the conditions bearing on phonologically conditioned allomorph selection. In particular, class sensitivity appears to be equally local (though see Inkelas this volume for an apparent counterexample; see also note 8).

I suggest that class features are located in the phonological part of lexical entries. In keeping with Bermúdez-Otero’s Phonetic Interpretability Hypothesis, they must be realized phonologically or else deleted at the end of the first cycle of phonology. This ensures that they can only have local effects—in fact, they are more local than the effects of overt phonological features, which are not deleted but can in principle be visible after a round of phonology.

4 Gender and declension class in Norwegian

Norwegian has lost most of the case-marking morphology which characterized Old Norse (and is still found in Icelandic), and many distinctive endings have eroded. Haugen (1982) describes a particularly conservative South Trøndelag dialect which preserves a masculine–feminine distinction in many places, including in many plural forms (for example mange ‘many (m),’ manga ‘many (f),’ mang(e) ‘many (n)’), but most dialects today preserve the masculine–feminine contrast only in a handful of formatives, normally restricted to the singular.

The dialect of Gloppen, in Sogn og Fjordane, as described by Fitje (1995) has distinct masculine and feminine forms in a class of adjectives including åpen ‘open (m),’ åpa ‘open (f),’ as well as a set of determiners, quantifiers and possessive pronouns.

A more typical conservative dialect would be the one described for Bø in Nordland by Martinussen (1973) or Salten, also in Nordland, by Brekke (2000). A possibly exhaustive list of words showing a distinct feminine form is given in (34) for the Salten dialect. The first person singular possessive pronoun, exemplified here, belongs to a series which also includes the second person singular possessive and the reflexive possessive, and all three make the same distinction (mi-min-mitt, di-din-ditt, si-sin-sitt). In some dialects the determiner hin-hi-hitt ‘the other’ is also found (e.g. in Gloppen).

Plural suffixes often correlate well with gender, e.g. in Tromsø dialect there is a very strong correlation between taking a plural in /e/ and having feminine gender, but because of the effects of declension class, I omit plural suffixes from the table. As for the postnominal definite marker, since it is a bound form, the question of whether it exhibits gender or declension class is at issue and is discussed further below.18

(34) Exponents of feminine in a conservative Northern dialect (Salten in Nordland, after Brekke 2000, some variable forms omitted)

---

17 I list the word meaning ‘own’ (as in ‘my own car’) as an adjective, but see Fretheim (1984) on its distinctive category status.
18 It is common for the feminine gender definite marker to have allomorphs distinguished either by phonology or declension class.
Another word which in many dialects can pick out feminine grammatical gender is the pronoun hun ‘she’ (cf. Icelandic (9-b)), (often ha, contrasting with masculine han with an -n), as illustrated in (35), from Faarlund et al. (1997, 328); in other dialects, that pronoun is restricted to high animate biologically female referents, and the form den would be used for masculine and feminine inanimate referents.

(35) a. Har du sett sykkelen min? Han står der borte.  
   *Have you seen bicycle.M.DEF my.M it.M/he stands there away*  
   ‘Have you seen my bike? It is over there’

b. Har du sett boka mi? Ho ligg der borte.  
   *Have you seen book.F.DEF my.F it.F/she lies there away*  
   ‘Have you seen my book? It is over there’

Even in dialects which have the distinctions indicated in (34), most quantifiers and adjectives and the demonstrative collapse masculine and feminine, as illustrated in (36) (using standard Bokmål orthography).\(^{19}\)

(36) Adnominal elements lacking distinct feminine forms

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantiifiers</td>
<td>‘all’</td>
<td>all</td>
<td>all</td>
</tr>
<tr>
<td>Adjectives</td>
<td>‘every’</td>
<td>hver</td>
<td>hver</td>
</tr>
<tr>
<td>Prenominal definite</td>
<td>‘the’</td>
<td>den</td>
<td>den</td>
</tr>
<tr>
<td>Possessive pronoun</td>
<td>‘our’</td>
<td>vår</td>
<td>vår</td>
</tr>
</tbody>
</table>

Though the pattern exemplified by Salten is found in many different locations, most dialects have fewer exponents of feminine, and often they form a subset of the Salten pattern. The dialect of Skien in Telemark, over a thousand kilometers away, has feminine gender in the same places as Salten with the apparent exception of the word meaning ‘own.’

(37) Exponents of feminine in a conservative Eastern dialect (Skien in Tele-

\(^{19}\)The neuter singular form of the prenominal definite article and demonstrative is pronounced /de/ but written det. Since the plural form, /di/, is written de, to write the neuter form without the t would invite confusion; hence I have written it “de(t),” with the purely orthographic t in angle brackets.
The dialect of Hallingdal in Buskerud (part of the Eastern region but over 200 km inland from Skien) has been described by Venås (1977) as having a common gender form for ‘none,’ ‘some,’ and ‘other,’ but preserving a feminine distinction in ‘own,’ ‘little,’ the possessors and the indefinite and definite forms. The same pattern is found in Senja, in the county of Troms, far in the north.²⁰

(38) Exponents of feminine in an Eastern dialect (Hallingdal in Buskerud, after Venås 1977, some variable forms omitted; neuter form of ‘own’ not provided)

<table>
<thead>
<tr>
<th>gloss</th>
<th>F</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantifiers</td>
<td>'some'</td>
<td>noa</td>
<td>non</td>
</tr>
<tr>
<td>Adjectives</td>
<td>'none'</td>
<td>inga</td>
<td>ingen</td>
</tr>
<tr>
<td>'other'</td>
<td>anna</td>
<td>æen</td>
<td>aent</td>
</tr>
<tr>
<td>'little'</td>
<td>lita</td>
<td>liten</td>
<td>lite</td>
</tr>
<tr>
<td>Indefinite article</td>
<td>'a'</td>
<td>e</td>
<td>en</td>
</tr>
<tr>
<td>Possessive pronoun</td>
<td>'my' etc.</td>
<td>mi</td>
<td>min</td>
</tr>
<tr>
<td>Definite marker</td>
<td>'the'</td>
<td>-a</td>
<td>-n</td>
</tr>
</tbody>
</table>

(39) Some elements not distinguishing feminine from masculine in Hallingdal

<table>
<thead>
<tr>
<th>gloss</th>
<th>F</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>'some'</td>
<td>nokon</td>
<td>nokon</td>
<td>noko</td>
</tr>
<tr>
<td>'none'</td>
<td>inqjin</td>
<td>inqjin</td>
<td>icci noko</td>
</tr>
<tr>
<td>'other'</td>
<td>an</td>
<td>an</td>
<td>anna</td>
</tr>
</tbody>
</table>

Thus, even in these otherwise conservative dialects, the exponence of feminine gender in Norwegian rests on very few forms. In less conservative three-gender dialects, as observed for example in Tromsø in the north and for three-gender speakers in Oslo in the east, it is typical that only the bottom half of the table in (34) continues to make three-way distinctions, as illustrated in (40).

(40) Exponents of feminine in a less conservative Northern dialect (Tromsø)

<table>
<thead>
<tr>
<th>gloss</th>
<th>F</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjective</td>
<td>'little'</td>
<td>lita</td>
<td>liten</td>
</tr>
<tr>
<td>Indefinite article</td>
<td>'a'</td>
<td>ei</td>
<td>en</td>
</tr>
<tr>
<td>Possessive pronoun</td>
<td>'my' etc.</td>
<td>mi</td>
<td>min</td>
</tr>
<tr>
<td>Definite marker</td>
<td>'the'</td>
<td>-a</td>
<td>-n</td>
</tr>
</tbody>
</table>

Such speakers may variably also allow ho ‘she’ to refer to feminine gender.

²⁰Thanks to Merete Anderssen for discussion of the Senja dialect.
inanimates such as *klokka* ‘the clock.’

As long as feminine gender is expressed on a single separate word such as the indefinite article, the distinction must be registered on the syntactic side of the lexical entries for feminine nouns. So the gender system represented in (40) is not qualitatively different from the gender system of Icelandic, despite the fact that the exponence of the feminine is massively reduced. The loss of cues to feminine gender, however, leads to a learnability problem, with the distribution of feminine gender being acquired late, and eventually, not at all (Rodina and Westergaard 2013).

It seems that the critical juncture is the loss of the feminine form of the indefinite article. There are dialects which manifest the pattern suggested by the following table. As with the patterns above, these are found in quite distinct parts of Norway, at least from Mannndalen in the north (Conzett et al. 2011) to Oslo in the east (Fretheim 1985; Lødrup 2011a). In each case where such a dialect has been described in adequate detail, it seems to be a two-gender dialect, as discussed below. Above the dashed line, the first two columns of forms are identical.

(41) New two-gender dialect (e.g. Oslo)

<table>
<thead>
<tr>
<th>gloss</th>
<th>C</th>
<th>C</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantifiers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘some’</td>
<td>noen</td>
<td>noen</td>
<td>noe</td>
</tr>
<tr>
<td>‘none’</td>
<td>ingen</td>
<td>ingen</td>
<td>ikke noe</td>
</tr>
<tr>
<td>Adjectives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘own’</td>
<td>egen</td>
<td>egen</td>
<td>eget</td>
</tr>
<tr>
<td>‘other’</td>
<td>annen</td>
<td>annen</td>
<td>annet</td>
</tr>
<tr>
<td>‘little’</td>
<td>liten</td>
<td>liten</td>
<td>lite</td>
</tr>
<tr>
<td>Indefinite article</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘a’</td>
<td>en</td>
<td>en</td>
<td>et</td>
</tr>
<tr>
<td>Possessive pronoun</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘my’ etc.</td>
<td>mi/min</td>
<td>min</td>
<td>mitt</td>
</tr>
<tr>
<td>Definite marker</td>
<td>‘the’</td>
<td>-a</td>
<td>-n</td>
</tr>
</tbody>
</table>

Here I have labeled the first two columns ‘C’ for ‘common gender,’ despite the fact that below the dashed line, there are still distinct forms for the historically feminine and the historically masculine nouns. In other words, I suggest that the definite marker and the possessive pronouns are insufficient evidence in Norwegian for positing a gender feature in the syntax, because their surface distribution can be described in another way, and learners do not posit pseudosyntactic features in the syntax without sufficient evidence for them.

The critical diagnostic is the existence of unambiguously feminine forms on words which are not local enough to have been subject to contextual allomorphy—which, as we have seen, normally requires adjacency. Three-gender dialects have such forms, including at least *ei* ‘a,’ while two-gender dialects lack them.

This means that all of the nouns marked in the syntax as belonging to the feminine gender in the dialect represented in (40) are marked in the phonology as belonging to the ‘E’ declension class in the dialect represented in (41); there is a qualitative change from lexical entries like that in (42) to lexical entries like that in (43) (taking common gender to be unmarked, there is no need for any gender specification in (43)).
At the same time, the definite suffix is reanalyzed from expressing gender, as in (44), to expressing declension class, as in (45) (cf. (5)).

\[(44)\quad <D, \text{def}, f> \Leftrightarrow /a/\]

\[(45)\quad <D, \text{def}> \Leftrightarrow \begin{cases} /a/ & /E/ \\ /n/ & (\text{Elsewhere}) \end{cases}\]

Something strikingly absent from the pattern of variation is two-gender dialects where the indefinite article *ei* is preserved as a marker of the E declension. If declension class were visible under adjacency across a word boundary, then such a dialect might be expected to exist and give rise to the following pattern, where the *ei* form of the indefinite article is only used when adjacent to the E class noun.

\[(46)\quad \text{Non-existent dialectal pattern}
\]

\begin{enumerate}
\item[a.] *ei*  
\item[b.] *en stor jente*
\end{enumerate}

This would be like the Spanish pattern discussed in §3, where the definite article showed a distinct form only immediately before a feminine noun starting with stressed /a/, but with a crucial difference. In the Spanish case, the distribution of the prenominal article was sensitive to a phonological property of the left edge of the noun. To the extent that there is a phonological generalization about E class nouns in Norwegian, it is a generalization about their right edge, not the left. Hence, the pseudophonological feature E is a property of the right edge of the phonological representation, and the prenominal article is not adjacent to it, hence cannot be conditioned by it. The absence of (46) as a pattern among Norwegian dialects thus supports the characterization of declension class as pseudophonology.

As already noted, two-gender systems have emerged in geographically discontinuous parts of Norway. Bergen dialect has long been understood to have only two genders. Ledrup (2011a) and others have argued persuasively for a two-gender dialect in West Oslo. Conzett et al. (2011) examine the speech of some speakers in some rural Northern Norwegian communities and conclude that they have a two-gender system (they stress the fact that those communities have genderless Finno-Ugric substrates). Rodina and Westergaard (2013) study a group of children in Tromsø who have developed a two-gender system, with no sign of acquiring the three-gender system considered typical of Tromsø (and with little reason to think that contact with a genderless language is a
direct factor).

In the next section, I argue that the definite marker is a kind of suffix, despite its cliticlike properties, in a way that makes it eligible for declension-class allomorphy, paving the way for the reanalysis seen in (45). In the section after that, I address the issue of the possessive pronouns, which I suggest are not affixes, and discuss how it is that nonaffixal elements can appear to show declension class sensitive allomorphy.

5 The Norwegian definite marker

As noted above, the Phonetic Interpretability Hypothesis in (33) potentially predicts that declension class sensitivity should be even more strictly local than phonologically sensitive allomorphy: it should not apply across a word boundary, because the cycle of phonological computation which creates a word should erase the phonetically uninterpretable class features. This fits well with the broad pattern of empirical data: there are many cases of class-based allomorphy within words, and phonologically conditioned allomorphy crosses word boundaries (as seen in §3 above for Korean nominal conjunction and the Spanish definite article), but it is not clear that there are cases of class-based allomorphy across word boundaries.

For this reason it is important to examine the evidence that the Norwegian definite marker is a clitic. If it is a clitic, and there is a word boundary separating it from its host noun, then we do not expect to find class-based allomorphy of the definite marker controlled by features on the host noun. As a result, the alternation between -en and -a examined here could not be due to class and would have to be due to gender, so the dialects with -a endings in definite forms for certain nouns would have to have three genders.

In this section I examine the evidence and suggest that there is in fact a phonological word boundary between the definite marker and the noun; however, there is also evidence beyond the distribution of the a form of the definite suffix that lexically arbitrary contextual allomorphy crosses this boundary. Thus there appears to be a mismatch between the phonological word boundary and the domain for lexical access.

The primary argument for clitic status of the definite marker comes from tone, or pitch accent. Lahiri et al. (2005a,b) in particular argue that the definite marker is a clitic, not an affix, on the basis of the distribution of pitch accent. Regularly assigned pitch accent distinguishes two-syllable words from one-syllable words, as indicated in (47), where superscripts show whether the word is pronounced with ‘tone 1’ or ‘tone 2.’

(47-a) shows that a typical monosyllabic word has tone 1, and (47-b) shows that a disyllabic word normally has tone 2. (47-c) could be the plural of either; the plural suffix -er adds a syllable to tank, so the plurals of both words have two syllables and hence tone 2 (after a final vowel, as in tanke, the plural suffix does not add a syllable).
Definite suffixes don’t count for the purposes of pitch accent; if a definite suffix alone accounts for a second syllable, the pitch accent rules behave as if the word only had one syllable. This means that the definite singular forms of ‘tank’ and ‘thought’ are distinct in pitch accent. The definite plural forms, however, are indistinct, as if both formed on the indefinite plural (trisyllabic words are regularly tone 2, like disyllabic words).

Faarlund (2009), however, rejects those arguments for clitic status, and points to a number of ways in which the Norwegian definite marker contrasts with its Old Norse (and Modern Icelandic) counterpart. He suggests that those differences indicate grammaticization from clitic status to affix status in the history of Norwegian. The main arguments are morphological in nature. He points out morphological irregularities in the Norwegian expression of definiteness, for example in many dialects there is an /r/ in the indefinite plural which is lost in the definite plural, as seen in tankene above, or in Faarlund’s (p. 621) example below (in the Nynorsk orthography, with Faarlund’s parse indicated).

The reasoning is that if -ne here is a clitic, then it should not be able to affect morphological changes on its host. Börjars and Harries (2008) suggest that there is a regular phonological rule at play, but this is not correct. Examples such as krydder ‘spice’ krydderne [krydenær] ‘spices’ show that /r/ does not delete before /n/, but coalesces with it into a retroflex segment. Thus Faarlund is right to say that there is an /r/ missing in (49-b). But since Faarlund specifically contrasts Norwegian to the example of Icelandic, which he suggests does have a clitic definite marker, it is highly relevant (as Börjars and Harries point out) that Icelandic (and even Old Norse) shows a similar kind of final consonant deletion in part of its definite paradigm.

Börjars and Harries’ claim would be correct for the Standard Swedish counterpart of Faarlund’s example, in which there is a retroflex realization of /r+n/ in hástarna.
Faarlund (p. 625) dismisses the deletion of /m/ here as the result of a “(deriva-
tionally) late phonological rule.” But any clitic analysis which works for hest-
tunum will make hestane technically feasible.

Similarly, Faarlund mentions Norwegian words ending in syllabic /n/, which
sometimes fail to overtly show a definite suffix /n/ (e.g. eksamen ‘exam’ or ‘the
exam,’ dagsorden ‘agenda’ or ‘the agenda’). He suggests that these constitute
‘arbitrary gaps’ in the paradigm, a possible phenomenon for affixation but not
for cliticization (following Zwicky 1977). But the gaps do not seem arbitrary,
and are amenable to a purely phonological rule which deletes a syllabic /n/ after
another syllabic /n/.

Faarlund (2009) also mentions the case of museum, ‘museum,’ where the
definite form is based on a truncated stem.

This is reminiscent of the example of English will–won’t, which was part of
the evidence Zwicky and Pullum (1983) adduced to conclude that English n’t had to
be an affix, not a clitic. However, there are very few such words in Norwegian,
and they tend to have a ‘learned’ air; in fact, some speakers apparently lack
any such words, and have a fully regular word for ‘museum,’ either by using
the truncated stem in the indefinite, or by using the long stem in the definite
form, or both. The existence of speakers without truncated stem forms does
not invalidate the argument for speakers who do use truncated stem forms, but
the marginal nature of the pattern indicates that the data must be examined
carefully.

Faarlund mentions the fact that syllabification is sensitive to the definite
suffix, for example in words like esel [εsɛl] ‘donkey’ have a definite form eslet
[ɛsɛlɛ]. But there is a class of Icelandic words like lifur ‘liver,’ with a defi-
nite form lifrin, which behave similarly (Kiparsky 1984; Rögnvaldsson 1986).
These are explained if lifur lacks an underlying vowel in its second syllable, and
postlexical resyllabification is allowed across the boundary that separates the
clitic from its host. The account can be extended to Norwegian if esel lacks an
underlying vowel in its second syllable. Thus if Icelandic has definite clitics, then
some of the surface details of syllabification are determined after cliticization,
and there is no argument that Norwegian definite markers are not clitics.

Clearly, the discussion of whether a given morpheme is a clitic or an affix
only makes sense in the context of a theory which makes a distinction. The basic
idea behind the Zwicky and Pullum (1983) treatment was that affixes are processed in a presyntactic morphophonological component, while clitics are placed postsyntactically, too late to interact with the first round of morphophonology.

But in current thinking, prosodic structure is constructed from syntactic structure at spell-out through a set of mapping rules or constraints, and different kinds of clitics are a result. There is a correlation between prosodic boundaries and spell-out domains, because every spell-out domain gets a boundary. But the correlation is not perfect, and there may be mismatches, because phonological computation may introduce, alter, or erase boundaries created at spell-out.

Declension-class sensitive allomorphy could reach across a phonological word boundary if the word boundary were induced by properties of a phonological exponent, rather than from the syntactic cycle.

This fits well with the proposal by Morén-Duolljá (2013) that pitch accent is determined by metrical structure in Nordic languages, and that lexically pre-specified ‘tone’ involves underlyingly prespecified structure.

The definite suffix is prosodically less well integrated into the stem than other suffixes. For example, the sequence /rn/ is a perfectly good coda cluster in Norwegian, in words like tårn ‘tower’, /torn/; the word contains no prosodic boundaries, and it syllabifies as a single syllable: [törm] (the vowel is short and lax because the coda is heavy).

In contrast, the definite form tårn, ‘the sip’ is composed of the same segmental material, but is prosodically distinct. It has two syllables, the first with a long vowel: ['tørn], representing its derivation from a monosyllabic root tår /tɔr/ and the definite suffix -n.

This can be modeled by lexically specifying the definite suffix with prosodic structure; in (52), I mark the suffix as projecting a prosodic word.

(52) \( <D, \text{def} > \leftrightarrow /\omega n/ \)

Phonological computation will find the best compromise between treating this formative as a prosodic word (faithfulness to the input) and integrating it as a segment into the larger prosodic structure in an unmarked way (markedness). The result is that the definite marker is phonologically adjoined to a higher level of prosodic organization (here, the prosodic word) than a suffix without the lexically specified prosodic structure (cf. Morén-Duolljá’s treatment of Swedish).

As noted by Kristoffersen (2000, 222), this is the only context in Norwegian where syllabic sonorants can occur before other syllabic sonorants. An additional example is given in (53), based on Kristoffersen’s representations.

(53) /bibil/ [ˈbɪː.bl] ‘bible,’ /bibil/=/=/= [ˈbɪː.bl.n] ‘the bible’

The neuter singular definite suffix is /e/; after a syllabic consonant, this leads to a similar situation, since in a minimal word domain, the vowel would be expected to resyllabify with the preceding consonant (as it does here in rapid speech).

(54) /stempl/ [ˈstɛm.pl] ‘stamp,’ [ˈstɛm.pl.ø] ‘the stamp’
In some phonotactic contexts, the additional prosodic structure on the definite suffix leads to epenthesis. Consider, for example, the contrast between a word ending in /ŋn/ like *agn* ‘bait’ and the definite form of a word ending in /ŋ/ like *gang* ‘hall, walkway, walk, gait.’

(55)  
  a. *agn* ‘bait’: [ŋn]  
  b. *gang-en* ‘the hall’ [ŋŋn]

However, after a weak syllable ending in a vowel, the definite suffix does not add a syllable; instead, it is added as a coda to the light syllable already present, as if the two light syllables were fused. This can be illustrated by comparing a two-syllable word ending in /n/, like *hoven* ‘arrogant, swollen’ to the definite form of a word ending in an unstressed vowel, like *låve* ‘barn.’ Since these words have tone 2, unlike the previous words discussed, I add a superscript 2.

(56)  
  a. *hoven* ‘arrogant’: 2/*hɔvn/  
  b. *låven* ‘the barn’: 2/*lɔvn/

Thus, the prosodic structure specified on the definite suffix can be manipulated or destroyed by the phonological component, depending on the environment. Tone, however, must be fixed before this happens.

Given the fact that some Norwegian words must be lexically specified for prosodic structure anyway, there is no reason the definite suffixes could not be specified lexically. The resulting prosodic structure give the tone effects, as if the definite suffixes were clitics. But since they are introduced as affixes, within the same cycle as the root noun, the selection of allomorphs can be sensitive to declension class features on the root.

6 Possessive pronouns

In two-gender dialects, the feminine form of the indefinite article *ei* is lost, and is replaced with a common gender form *en*. Similarly, distinctly feminine forms of adjectives and quantifiers such as *lita* ‘little (F)’ are lost, and common gender forms such as *liten* are used.

(57)  
<table>
<thead>
<tr>
<th>Three-gender Norwegian</th>
<th>Two-gender Norwegian</th>
</tr>
</thead>
<tbody>
<tr>
<td>F  ei  lita  jente</td>
<td>C  en  liten  jente</td>
</tr>
<tr>
<td>M  en  liten  gutt</td>
<td>C  en  liten  gutt</td>
</tr>
<tr>
<td>N  et  lite  hus</td>
<td>N  et  lite  hus</td>
</tr>
</tbody>
</table>

Similarly, three possessive pronouns have distinctly feminine forms in the singular, namely *mi* ‘my,’ *di* ‘your (singular),’ and the third person reflexive *si*; when use prenominally or standing alone, these are replaced with the historically masculine forms in the two-gender dialects.
It comes as something of a surprise, then, to see that when the same series of possessive pronouns appears postnominally, the historically feminine form continues to be found in the two-gender dialects (Fretheim 1985; see Taraldsen 1990, 1991 on pre- and postnominal possessors in Norwegian). Nor is its distribution governed by natural gender, but rather tracks the distribution of the allomorphs of the definite suffix: nouns which are suffixed with -a in the definite singular also take the postnominal possessors series mi, di, si, which are historically the feminine forms.

It is unexpected that declension class should be visible across a word boundary. At this point there are four possible interpretations of this data. One is that postnominal mi, etc. are suffixes, and can be sensitive to declension class. This has been suggested by Trosterud (2001), Lødrup (2011a,b) and Conzett et al. (2011). It is true that the postnominal possessor is obligatorily adjacent to the definite-marked noun. However, there is little else to suggest an affixal account. In fact, Lødrup (2011a) notes for West Oslo that the postnominal possessor can scope over a coordination, unexpected if it is an affix.

Even more strikingly, the noun can be elided, for example under coordination.

Note that in this case, the usual common gender form of the possessor surfaces—this is also the form which is used predicatively, for singular common-gender nouns.
It is also problematic that, on the affixal account, the declension class should be percolated through the definite suffix. The selection of declension class sensitive allomorphs is like phonologically sensitive allomorphy; there is no particular reason that an affix selecting for a class a stem should itself behave like a class a stem for purposes of other allomorphy. Recall the Icelandic paradigm in (15); there, the declension-class sensitive allomorph of the plural (-ar) was not enough to allow a declension class sensitive form of the definite suffix (hence hest-ar-n-ar, not *hest-ar-n-ar).

A second interpretation of the data would be that these dialects have three genders after all, despite lacking most overt exponents of feminine, including the indefinite article ei. That is probably the usual lay assumption. However, this cannot explain the very peculiar distribution of the mi/di/si possessive forms, which, as seen in (61) and (62) above, can only appear immediately adjacent to an overt noun suffixed with definite -a. Since neuter nouns in the same contexts as (61) and (62) control neuter forms of the same pronouns (mitt/ditt/sitt), gender features cannot be prevented from being copied to the possessive pronoun in these cases. If there were a feminine gender in the dialect, and if mi expresses it, then mi should surface in those cases.

The third possibility is that declension class features can be visible across a word boundary, at least in some cases, just like phonological features. This is apparently what Fretheim (1985) assumes. This possibility would require a reexamination of my interpretation of the Phonetic Interpretability Hypothesis and/or the cyclic nature of lexical insertion. It also raises the question of which declension class features are visible at what distances, since cases like the Icelandic and the Kuuk Thaayorre show that class features are not normally visible at a distance. The nonexistence of (46) suggests that declension class features are not visible across word boundaries.

I propose instead a fourth option, namely that mi, di and si in two-gender dialects involve PHONOLINGUISTICALLY conditioned allomorphy of the kind seen in the Spanish definite article illustrated in (28). The postnominal possessor always immediately follows the definite form of the noun. The alternation only concerns the common gender singular forms mi/di/si versus min/din/sin, in the environment immediately following a singular common gender definite suffix, which is either /a/ or /n/, depending on declension class, as I have argued. What I suggest is that the series mi, di, si is conditioned by the phonological context of immediately following a vowel within a prosodic phrase. In any other context, the singular common gender form will be taken from the default series min, din, sin.22

22Following Wiltschko (2012), these pronoun series might be decomposable, in which case the one with a phonologically restricted distribution is -i, and it is prefixed by person markers m-, d-, or s.
Being vowel-final is a phonetically realized property, and unlike declension class features is not obliterated at the first phonological cycle, hence it can be visible across a word boundary, just as in the case of the English indefinite article. However, there is reason to believe that at least this instance of phonological selection requires a certain phonological locality of the conditioning environment, as indicated in (63), where $\phi$ denotes a prosodic phrase.

Lødrup (2011a) mentions one special construction in which the default form may appear after a vowel-final nominal; this is when names are used vocatively with a first-person possessor.

(64) kjære Maria min

dear Maria my.c

‘my dear Maria’ (two-gender Norwegian, Lødrup 2011a, 124)

For this case, it seems likely that the name is located in a higher syntactic projection than a common noun (Longobardi 1994). In that case, the possessor may be separated from the noun by a DP boundary. If the DP maps onto a prosodic phrase $\phi$, then the possessor is outside the smallest prosodic phrase; a free clitic in Selkirk’s (1996) terms must be within the smallest prosodic phrase. If the phonological condition for the allomorph $\text{mi}$ must be within the immediately containing prosodic phrase, then selection of $\text{mi}$ would fail, explaining (64) (cf. also the Spanish case in (27), where the syntactic projection of the attributive adjective gives rise to a different phonological condition from the simple contiguity of a determiner and noun).

A small set of kinship terms admits of a distinct construction, in which the possessive follows a non-definite-marked noun. The form of the possessive marker in that case may be $\text{mi}$, if the kinship term refers to a female, as in $\text{mor mi}$ ‘my mother.’ It is notable that Lødrup (2011a, 125) marks it as unacceptable for West Oslo Norwegian, giving the form $\text{mor min}$ as the acceptable alternative (even for speakers who have $\text{mora mi}$, with the definite suffix), though Conzett et al. (2011) document $\text{mor mi}$ in the speech of some two-gender subjects. The existence of $\text{mor mi}$ then requires a separate statement in the Northern dialect.

I suggest that an analysis of postnominal $\text{mi, di, si}$ as phonologically conditioned allomorphs of $\text{min, din, sin}$, in two-gender dialects, is more promising than the alternatives briefly reviewed here. If correct, this example provides a window into the difference between allomorphy conditioned by declension class, represented as abstract phonology, and allomorphy conditioned by ‘real’ phonology.

7 Conclusion

I have proposed a particular understanding of the difference between gender and declension class, based mainly on Norwegian data, and have shown how a
gender can rather abruptly be reanalyzed as a declension class. The sharpness of the transition is striking, with otherwise similar dialects either having three genders or two, on this account, though usage may be variable, as in all cases of dialectal variation.

I have framed this proposal in terms of restrictiveness: lexical entries are strictly divided into two distinct components, with the only point of contact being the one licensing insertion. The syntactic side of the lexical entry has no other access to phonological information, and vice versa.

On the other hand, by allowing pseudophonological features (declension class) into the phonological representation and pseudosemantic features (gender) into the syntax, it may be charged that what I am proposing is insufficiently restrictive; after all, a theory which allowed only phonetically interpretable features in phonological representations would be more restrictive than this one.

But the existence of declension and gender is not in doubt, and hence they must be located somewhere. Rather than multiplying modules, I have suggested that they can be accommodated in independently motivated ones.

The existence of pseudophonological and pseudosemantic features might be explained in terms of acquisition. At an early stage of language acquisition, when only a small number of nouns have been assigned to genders, grammatical gender might be semantically coherent. Similarly, declension classes might be phonologically well motivated. Once the relevant features have been established by the learner, the slow accumulation of counterexamples might be accommodated in some way, rather than causing a reevaluation of the initial hypothesis.

References


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