THE LEXICAL SPECIFICATION OF NORWEGIAN TONAL WORD ACCENTS

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CONTENTS

ABBREVIATIONS

ADJ./adj.	adjective
DEF.	definite
H	high tone
H*	high tone aligned to stressed syllable
IMP.	imperative
INDEF.	indefinite
L	low tone
L*	low tone aligned to stressed syllable
MLG	Middle Low German
non-Gmc	non Germanic
ON	Old Norse
PL./plur.	plural
SING./sg.	singular
UEN	Urban East Norwegian
WGmc	West Germanic

INTRODUCTION

This thesis challenges the firmly established view that Accent 2 is the lexically specified word accent in Scandinavian tonal dialects. It instead proposes that Accent 1 historically was and still is the lexical accent, i.e., the one that does not follow rules and has to be stored in the lexicon. It is argued that in assuming Accent 1 as the lexically specified accent, accent assignment in Scandinavian can be fully accounted for in a straight-forward and comprehensible way. This morphophonological study focuses on Standard East Norwegian as a test case to illustrate how accent assignment works in a particular dialect, but profits greatly from being able to refer to different Scandinavian dialects, including Central Swedish and, on a smaller scale, Danish.

The intent of this thesis is to show that the traditional analyses, which view Accent 2 as the "marked" accent, ignore some very fundamental facts as to the true nature of Accent 1.[1] Our approach stands apart from most others in that we view Accent 1 as the *lexically specified* accent in Scandinavian tonal dialects and our aim is to present undeniable proof of it.[2] *Lexically specified* implies for us that, for example, learners of Norwegian and Swedish have to memorize or store which words bear Accent-1 in their lexicon, whereas Accent-2 is easily determined by rules for words without lexical specification for accent.

We would like to embark on this journey by first presenting an overview of what tonal accent is in Scandinavian and what issues find consensus or discord in the literature in Chapter 1. Chapter 2 presents the competing generative morphophonological approaches to the lexical distribution of word accents in Scandinavian — all which are founded on the assumption that the lexical accent is Accent 2. In Chapter 3, we then present our own lexical Accent-1 approach. Here we provide the tools for our approach, and show how it works with inflectional morphology (section 2) and derivational morphology (section 3). We then dedicate Chapter 4 solely to the analysis of compounds, once again starting with the facts of accent distribution

1. Due to the array of concepts hiding behind the word *markedness,* we choose to only use the term when discussing other analyses that explicitly use this term.
2. Papers also advocating the lexical Accent-1 approach are Kristoffersen (2006b, 2006c).

(section 1), and previous approaches (section 2) before presenting our own in section 3 and a comparison of Accent-1 and Accent-2 approaches in section 4. Chapter 5 attempts to answer open questions. Here we discuss the true nature of Accent-1 words, where they come from, why they are specified or why they are not specified. It also explains the special status of monosyllabic words and why this status differs in Central Swedish and Standard East Norwegian. Chapter 6 reviews two acoustic analyses of a total of four East Norwegian dialects (section 1), setting the stage for our acoustic analysis of the opposing accents in prefixed and non-prefixed words in Trondheim Norwegian (section 2). The findings from our acoustic experiment (2.2) underline our claim that Accent 1 is the accent that is lexically specified and that Accent 2 is assigned by default rules. Finally, we top off this thesis with concluding remarks and venture a glance into the future considering what studies could follow and what insights we hope these studies will bring.

CHAPTER 1
SCANDINAVIAN TONAL WORD ACCENT

The purpose of this chapter is to introduce the notion of tonal word accents in Scandinavian and to give the state of the art. It presents the characteristics of tonal word accents agreed upon in the literature as well as the areas of controversy. This background information is necessary to fully understand the object of research and the general theoretical climate surrounding it.

The structure of this chapter is as follows. Section 1 points out that there are two tonal patterns which are distinctive in both Norwegian and Swedish. Interestingly, the distribution of these two word accents parallels the distribution of stød in Danish. Section 2 presents some characteristics of the two accents that linguists have agreed upon in the course of the 20th century (2.1–2.2) and some they have yet to agree upon. Section 2.3 elaborates on one area of divergence, i.e., the question of whether the nature of the accent opposition is privative or equipollent and section 2.4 discusses dialectal variation.

1. Two tonal patterns: Accent 1 and Accent 2

Amongst the Scandinavian languages, most dialects of Norwegian and Swedish belong to a small group of Germanic languages with lexical tone. By tone we mean that in these dialects, polysyllabic words have either one of two distinct prosodic patterns. These prosodic patterns or melodies are commonly referred to as Accent 1 and Accent 2 today – or also *acute* and *grave* in earlier literature. Although these prosodic patterns bear the same labels, the actual melodies differ from dialect to dialect. The most important characteristic of these opposing word accents is that they can differentiate between segmentally identical polysyllabic words, as shown in the following Norwegian example.

(1) A Norwegian minimal pair[3]

a. '*aksel*$_1$ 'shoulder'
b. '*aksel*$_2$ 'axle'

Although all tonal dialects have two opposing word accents, how this opposition is acoustically manifested can differ from one dialect to the next and nonetheless, this does not represent a real barrier for inter-dialectal communication.

Tonal opposition is restricted to polysyllabic words in most dialects. Some dialects in Northern Norway and Sweden, referred to as "circumflex dialects", also have a surface accent distinction in monosyllabic words (cf. Støre 1982; Elstad 1982; Kristoffersen 1992; Brekke 2000). However, we only mention this fact here since these dialects are not included in the framework of this thesis and nothing crucial hinges on this dialectal phenomenon.

The lack of tonal opposition in monosyllabic words is most commonly attributed to the fact that in most dialects Accent 2 is phonetically more complex than Accent 1. That is, Accent 2 requires a disyllabic trochee that bears main stress for its realisation. Therefore, no monosyllabic word or word with final stress can host Accent 2. Hence, the surface tonal opposition is exclusively found in polysyllabic words, and all monosyllabic words have Accent 1.

Another geographically peripheral but closely related language, Danish – the North Germanic language with the second-largest number of speakers following Swedish – also has opposing word accents. The distinction between the two accents, however, is not always manifested tonally. In fact, most Danish dialects have a stød (Accent 1) vs. non-stød (Accent 2) opposition rather than a tonal opposition. There are only a few Southern Danish dialects which have preserved their tonal accents.[4] Stød is also a prosodic feature with essentially the same distribution as Accent 1. However, it differs phonetically from tonal accent and in its distribution. The opposition of stød and non-stød is neither restricted to polysyllabic words nor

3. All Scandinavian words are written orthographically and in italics in the text (Bokmål for Norwegian). Word accent is denoted by subscripts after the respective words. Main stress is indicated with a straight apostrophe before the stressed syllable. For example, '*aksel*$_1$ 'shoulder' has stress on the first syllable and Accent 1, whereas *pa*'*rade*$_2$ 'parade' has stress on the penultimate syllable and Accent 2. Secondary stress is indicated with a subscript apostrophe when of interest, as in the final syllable of: '*asosi*,*al* 'a-social'.

4. The most widely-held view is that stød developed from tonal dialects and not vice versa (cf. Ringgaard 1983; Riad 2000; Gussenhoven 2004), although Liberman (1982) argued the converse, and Lorentz (2002) sees them basically as originating simultaneously.

is it dependent on primary stress. Phonetically, stød is a kind of glottal constriction – quite similar to the glottal stop – which has phonotactic restrictions. Stød will only show up in syllables that have a stød basis, i.e., that consist of either a long vowel or a short vowel plus a sonorant consonant (cf. Fischer-Jørgensen 1989 and Basbøll 2005 for a detailed phonetic and phonological description of stød). We will only sporadically refer to Danish stød since the focus of this thesis is tonal word accents.

Scandinavian tone is often referred to as pitch accent. However, we refrain from using this term since it is generally employed to denote language systems such as Tokyo Japanese, which have lexical tone, yet no stress (cf. Hyman 2001, Gussenhoven 2004 for detailed descriptions of the various types of tonal languages). Thus, to designate languages that have a lexical tonal opposition that is dependent on primary stress we use the term "tonal (word) accents" following Bruce & Hermans (1999), Kristoffersen (2000), Lahiri, Riad & Jacobs (1999) and others.

2. Traditional descriptions of tonal contrast in Scandinavian

Scholarly interest in North Germanic word accents has a long tradition that began in the 18th century with the first written reference to word accents by Anders Nicander in his poetic manual for Swedish (Nicander 1737),[5] and a few years later by Pedersen Høysgaard in his Danish grammar (Høysgaard 1743). It was in Høysgaard's grammar that the term "stød" was actually coined to describe the glottal pulse or "thrust" found in Accent-1 words in Danish. More than a century later, Ivar Aasen wrote the earliest known description of Norwegian word accents in the first Norwegian grammar (Aasen 1848).

Phonological research on word accents in Scandinavian during the 20th century went through the schools of Structuralism and Generative Theory, which also includes Auto-segmental and Lexical Phonology, and most recently Optimality Theory. There is a wealth of literature on Scandinavian word accents, thus, we will just briefly skim over the 20th century

5. Nicander (1737) explains to his readers which words rhyme and which do not. Unlike Modern Swedish poetry, tonal word accents played a greater role in the rhymability of words in Nicander's time. For a detailed account of Nicander's (1737) understanding of Swedish word accents see Jönsson-Steiner & Lahiri (2008).

here, concentrating on the more recent developments.[6] Starting with (2) below, we give the properties of North Germanic tonal accent generally agreed upon and found in most studies of the later 20th century listing a few analyses that acknowledge or concur to the respective property.

(2) Synopsis of accepted properties of Scandinavian tonal word accents

- Tonal opposition only occurs in polysyllabic words in most dialects.
- Lexical tone is restricted to the main stressed syllable.
- Morphemes may come with inherent accents (e.g. Rischel 1963/1983; Haugen 1967/1983; Withgott & Halvorsen 1984, 1988; Kristoffersen 1993, 2000; Riad 1998a; Bruce & Hermans 1999, among others).
- Accent 2 is the marked member[7] (e.g. Haugen & Joos 1952/1983; Haugen 1967/ 1983; Withgott & Halvorsen 1984, 1988; Kristoffersen 1993, 2000; Riad 1998a,b, 2003, 2005; Lahiri, Riad & Jacobs 1999; Bye 2004, among others).

These four properties of word accent are generally accepted, however, one of the main goals of this thesis is to challenge the last property that Accent 2 is the "marked" member of the tonal opposition. We give a more detailed account of this marked Accent-2 tradition below in 2.2. We first discuss the restrictions on the tonal opposition now in section 2.1.

2.1. Restrictions on tonal opposition

As mentioned above, the Accent-1 ~ Accent-2 opposition is only found in polysyllabic words in Norwegian and Swedish – apart from the few circumflex dialects. Thus, on the surface, only polysyllabic words can have either accent. Monosyllabic words are limited by their structure to Accent 1. Nonetheless, as we will see in Chapters 2 and 4, a seminal analysis by Withgott & Halvorsen (1984, 1988) proposes that underlyingly monosyllabic forms can be specified for Accent 2 in the present tense and in compounds. Our analysis also assumes an underlying

6. For comprehensive summaries of earlier phonetic and phonological research on Scandinavian tone see Fintoft (1970:12-47), Gårding (1977), Liberman (1982).
7. The term "marked" found in the early analyses is generally employed in the sense of the Prague School, i.e., as having an additional feature that is not present in something that is "unmarked".

accent opposition in monosyllabic words: yet, in contrast to the assumptions made in earlier literature, we assume that Accent 1 is lexically specified. We will elucidate our reasons for lexically specifying Accent 1 rather than Accent 2 in Chapter 3.

2.2. The lexical or "marked" accent

A quote from Liberman (1982) nicely sets the stage for the most popular view among 20th century linguists concerning the "marked" or lexically specified accent in Scandinavian:

> "It is acknowledged by all that the marked member of the Swedish/ Norwegian accentual opposition is acc. 2 because acc. 1 resembles stress in English, German, French, etc., while acc. 2 is unusual and specific." (Liberman 1982:18)

Accent 2 has traditionally been the "marked" tonal accent in Scandinavian, primarily because it is phonetically more complex, i.e., it has one more high tone (henceforth H) than Accent 1 in some dialects (e.g. Haugen 1967/1983; Kristoffersen 1993, 2000; Lorentz 1995; Riad 1998a, 2005; among others). Haugen (1967/1983) finds additional proof of the markedness of Accent 2 in its restricted distribution (only in polysyllables) and its exclusion from certain word types which "are of rather obvious German or Romance origin" (Haugen 1967/1983:296). Haugen (1967/ 1983), like Liberman (1982), viewed the low tone (henceforth L) of Accent 1 (in East Norwegian) as merely the typical tonal accompaniment of primary stressed syllables as found in other Germanic dialects (e.g. Southern German). In his own words: "Accent 1 is not a pitch accent at all, but simply stress." (Haugen 1963/1983:280)

Kristoffersen (1993, 2000), in consensus with Haugen (1963/1983), also sees the complexity of Accent 2 as being constituted by its extra H. Kristoffersen's (2000) analysis of Standard East Norwegian detects a tritonal HLH melody for Accent-2 words, while Accent-1 words have a bitonal LH melody. This additional H of the Accent-2 contour is thus a lexical tone. Accent-1 words lack this lexical tone and thus merely have intonation and no lexical specification. We must pose the question, however, asking what is then considered to be lexical in Accent-2 contours of dialects that do not have an extra H? Or in dialects which have word accent opposition that is not tonal, such as in most Danish dialects.

We would also like to point out a crucial detail that we feel is often taken too lightly: in Danish, stød is generally assumed to be the lexically specified member (cf. Grønnum & Basbøll 2001). Recall that words bearing stød correspond to Accent-1 words in Norwegian and Swedish (assuming they have a stød environment). Thus, there is a discrepancy in the distribution of lexical accent in the Scandinavian languages since most scholars assume that Accent-2 words are lexically specified in Norwegian and Swedish and words with stød in Danish. We illustrate this asymmetry below in (3) where the shaded cells indicate what is understood as the unspecified words in each language.

(3) Asymmetric distribution of lexically specified words in Scandinavian

Danish	**Norwegian**	**Swedish**	**Gloss**
hån[ʔ]d	*hånd*$_1$	*hand*$_1$	*hand*
fæno'me[ʔ]n	*feno'men*$_1$	*feno'men*$_1$	*phenomenon*
te'a[ʔ]ter	*te'ater*$_1$	*te'ater*$_1$	*theatre*
'høne	'høne$_2$	'höna$_2$	*chicken*
'rune	'rune$_2$	'runa$_2$	*rune*
'kurve	'kurve$_2$	'kurva$_2$	*curve*

In (3), the asymmetry in the distribution of lexical accent becomes apparent. The cells which are not shaded, i.e., the first three rows in column 1 for Danish and the last three rows for Norwegian and Swedish, are traditionally considered to be lexically specified in most approaches.

We have just listed and discussed the traits of Scandinavian word accent agreed upon by most 20th century scholars. In the following, we discuss two important areas where opinions on Scandinavian tonal word accents diverge and give a few examples of analyses supporting each view.

(4) Controversial traits of Scandinavian tonal word accents

- The nature of tonal opposition is:
  - Privative (e.g. Haugen & Joos 1952/1983, Haugen 1963/1983, 1967/1983; Rischel 1963/1983; Elert 1972; Linell 1972; Withgott & Halvorsen 1984, 1988; Kristoffersen 1993; 2000; Lorentz 1995; Riad 2003a,b; Gussenhoven 2004 (for East Norwegian), among others).
  - Equipollent (e.g. Bruce 1977; Gussenhoven & Bruce 1999; Gussenhoven 2004 (for Stockholm Swedish), among others).

- The origin of the tonal opposition (tonogenesis):
  - The phonologisation of tonal opposition took place during Old Scandinavian (around 1050–1350) after the syncope period as a result of encliticization of the definite article to nouns and because of epenthesis in monosyllabic words ending in -Cl, -Cr, -Cn clusters. Both processes involve monosyllabic words that become polysyllabic but retain their original monosyllabic accent (Accent 1) (cf. Oftedal 1952, and most recently Lorentz 2002 and Bye 2004).
  - Tonal opposition was phonologised earlier during the Proto-Nordic syncope period (around 500-800). This hypothesis is attributed to Axel Kock, who assumed that words which lost their post-radical syllable due to syncope received Accent 1 and those not affected had Accent 2 (Kock 1884/85). More recent scholars who base their hypothesis on Kock's (1884/85) Proto-Nordic account are D'Alquen & Brown (1992) and Riad (1998a).

We only have room here to roughly sketch the theories of tonogenesis and to mention that scholars have not yet found a tonogenesis story to agree upon. However, we would like to take a closer look at the issue of whether tonal opposition has a privative or equipollent character. We briefly sketch the two main camps in the next section.

2.3. The nature of the accent distinction

One approach to the nature of Scandinavian tone assumes that the opposition is privative, i.e., the Accent-1 ~ Accent-2 opposition is essentially a no-tone vs. lexical tone distinction. Accent-2 words in these analyses are lexically specified and are either equipped with a feature such as [MERKMALHAFT] following the Prague School (Haugen 1963/1983), [+ACCENT-2] (Linell 1972; Rischel 1963/1983), [+PEAK DELAY] (Lorentz 1981) or with the extra H (or L depending on dialect) (Kristoffersen 2000; Riad 1998a; Bye 2004). This extra tone or feature consequently represents the lexical tone that is inherent to Accent-2 words and lacking in Accent-1 words.

A second approach sees Accent 1 and Accent 2 as having the same tonal melody (HL for Stockholm Swedish, Bruce 1977; Gussenhoven & Bruce 1999; Gussenhoven 2004). The

difference between Accent 1 and Accent 2 for these scholars lies merely in the timing of the tones, i.e., which tone is associated to the stressed syllable. In Bruce's (1977) bitonal approach, he posits that the two tones are both manifested with a HL melody, the differentiating factor being whether the fall comes early in relation to the main stress (Accent 1) or later (Accent 2). We illustrate the differing alignments below in (5).

(5) Stockholm Swedish tonal alignment (adapted from Bruce & Hermans 1999:624)[8]

a. Non-focal alignment

	'σ σ		'σ σ
	|		|
Accent 1:	H L*	Accent 2:	H* L

b. Focal alignment

	'σ σ		'σ σ
	|		|
Accent 1:	(H) L* H	Accent 2:	H* L H

We can see by these alignments both accents have a fall or HL melody in common. The stressed syllable is directly aligned to the L in Accent-1 words and since Accent-2 words have their stressed syllable aligned to the H, the L comes later and thus the fall comes later. Notice that for Bruce & Hermans 1999 Accent 2 has no extra H tone in this dialect.

Although mutually intelligible, the differences in the manifestation of tonal word accents are considerable, as we discuss in 2.4. What we see here in (5) for Stockholm Swedish is an example of a dialect that has identical tonal patterns for both accents, which Bruce most notably analysed with a timing approach.[9] Most analyses of Standard East Norwegian are privative because Accent 1 in this dialect lacks an initial H, which is present in Accent 2. Thus an analysis with lexical tone (H) for Accent-2 words has appealed to many scholars. Ideally, however, the nature of the tonal opposition amongst Scandinavian dialects should be able to be captured under one approach.

Yet a third approach was presented in the 1980s by Withgott & Halvorsen (1984, 1988). They posit, on the one hand, that tonal opposition in Norwegian is privative, i.e., has lexical

8. An asterisk following a H or L signifies that this tone is anchored to the stressed syllable, a convention that was developed in Goldsmith (1976).
9. However, Engstrand 1995, 1997 and Riad 1998a,b both use a privative approach for Stockholm Swedish as will be discussed in Chapter 2.

Accent 2 or no accent for stems. Yet, on the other hand, their approach also calls for a three-way opposition for affixes. Affixes can be Accent-1 inducing, Accent-2 inducing or neutral. We discuss this approach in more detail in Chapter 3.

2.4. Dialectal differences

Amongst the different approaches to Scandinavian word accents, dialectal differences have always proved challenging for most hypotheses. According to the typology put forth by Gårding & Lindblad (1973), there are two major types of tonal dialects in Scandinavia, those with one or two peaks as shown below in (6).

(6) Accent typology from Gårding & Lindblad (1973)[10]

Type	**Accent 1**	**Accent 2**	**Region**
0			Finnmark, Finland, North Sweden, South Denmark
1	**One peak**	**One peak**	
1A	early in stressed syllable	late in stressed syllable	South Sweden, West Norway
1B	late in stressed syllable	early in post-stressed syllable	Gotland, Bergslagen (Sweden)
2	**One peak**	**Two peaks**	
2A	late in stressed syllable	one in each syllable	Central Sweden, West Nyland, Southwest Norway
2B	in post-stressed syllable	one in each syllable	Göta, East Norway

Traditionally, Norwegian dialects have been categorised as H-tone or L-tone dialects corresponding to whether Accent 1 is phonologically represented with a H or L in that dialect. This H-tone/L-tone categorisation basically corresponds to Gårding-Lindblad's (1973) Type 1

10. Taken from Bye (2004:5).

and Type 2, respectively.[11] Privative approaches agree that the tonal contours in the various dialects have opposing specifications, i.e., if Accent 1 has a L on the main stress syllable, then Accent 2 will phonologically have a H on the main stress syllable in that dialect. Often, however, when considering the actual pitch contours for a dialect, researchers do not always agree on whether there is a tone associated to the main stressed syllable or not, as we will see in Chapter 6.

2.5. Typologically one approach to cover all

Most privative and equipollent approaches only attempt to account for one single dialect or perhaps a few closely related dialects. Only recently have linguists widened their sights and attempted to phonologically account for all Scandinavian tonal dialects using either the privative or equipollent approach. Riad (1996, 1998b, 2003a) was the first to try to account for all Scandinavian tonal dialects using one approach. He employed the privative approach designating Accent 2 as the lexically specified accent. According to Kristoffersen (2006b), however, some Norwegian dialects such as Nord-Gudbrandsdal and Oppdal (cf. Kristoffersen 2006d), cannot be accounted for with the privative approach. Although these dialects belong to the group of East Norwegian dialects, and most scholars agree that Standard East Norwegian has a privative tonal opposition, Kristoffersen (2006d) sees their tonal contours for Accent 1 and Accent 2 as being phonologically identical. Thus, he suggests applying a timing or target delay approach across dialects – in this case – to be able to account for East Norwegian dialects including the Oslo dialect with the same kind of analysis. Kristoffersen (2006d) analyses three East Norwegian dialects using a timing approach and an OT analysis and shows how the privative approach would fail. This analysis is discussed in more detail in Chapter 6.

Bye (2004) also attempts to bring all Scandinavian tonal dialects together by using one and the same approach. Like Riad, he also views the actual accent distinction as being privative where Accent 2 is the lexical tone. His claim, however, is that target delay is, on the one hand, the mechanism triggering tonal opposition in Proto-Nordic, and, on the other, responsible for the diversity in the phonological representation of these accents in modern Scandinavian

11. Stavanger is one dialect that does not follow this generalisation because it is a H-tone dialect but a type-2 for Gårding.

dialects.[12] Thus Bye's (2004) analysis captures all dialects using a privative target-delay approach.

Our analysis of tonal word accents in Standard East Norwegian takes a new privative approach. We discuss privative and equipollent approaches in more detail in Chapter 2 and Chapter 6.

To conclude this chapter, although scholars could not agree upon the origin of tone or the nature of the tonal opposition, one aspect of tonal word accents in Scandinavian that all scholars agreed upon in the 20th century is that Accent 2 is the lexically specified member of the opposition in some way or another. The next chapter will discuss three of the most recent morphophonological approaches to Scandinavian word accents.

12. "Target delay" is a term encompassing both peak and trough delay.

CHAPTER 2
MORPHEMES AND TONES: A HISTORICAL SURVEY

The Norwegian lexicon – like that of most languages – is made up of native words and words borrowed from other languages. There was a great influx of West Germanic loans during the 13th-16th century because of the Hanseatic League, which brought many speakers of Middle Low German (MLG), i.e., merchants and their families, to Scandinavia. Many MLG words were borrowed and integrated into Norwegian and Swedish with ease because of their common Germanic origins. Other loans from the Romance languages and Greek were not as easily adapted as can be inferred by the greater productivity of the borrowed Germanic affixes as compared to the Romance affixes. The integration of loans greatly influenced the distribution of accent and we dedicate most of Chapter 5 to its discussion.

One very interesting aspect of loans in North Germanic is that not only were entire words borrowed, but affixes as well. That is, polymorphemic words were most likely borrowed in their entirety and later decomposed into affixes and stems when additional words with these affixes came into the language (cf. Lahiri & Fikkert 1999 on the integration of Romance loans into English). Many affixes became productive and were used with native stems to coin new words. These non-native morphemes had a large impact on the morphology and phonology of the borrowing languages. We discuss this process and loans in general in more detail in Chapter 5. The present chapter explores the relationship between accent assignment and morphemes in Scandinavian as it traditionally has been analysed in the literature. In Chapter 3 we then present our own approach.

Chapter 2 is organised as follows. Section 1 presents the patterns of accent distribution for affixed words. It is divided up into three sections dealing with derivational prefixes (1.1), derivational suffixes (1.2) and inflectional suffixes (1.3). Section 2 presents three morphophonological approaches to accent assignment in Scandinavian. Two concerning accent assignment in East Norwegian: (2.1) Withgott & Halvorsen (1984/1988) and (2.2) Kristoffersen (2000), and one for Central Swedish (2.3) Riad (1998a, 2003b). These three approaches commonly assume that Accent 2 is the lexically specified accent.

1. Accent distribution and morphemes

The objective of this section is to show how morphemes affect word accent distribution. In order to illustrate the influence of affixes on word accent, we list affixes according to the accents of words coined with these affixes. If prefixes and suffixes do have an effect on word accent, then we should be able to ascertain particular accentual patterns for individual affixes. Affixes in Standard East Norwegian stem from Old Norse (ON), West Germanic languages (WGmc), i.e., Middle Low German or High German, as well as from non-Germanic languages such as Latin. We consider Germanic and non-Germanic affixes separately, starting out with Germanic prefixes in the following section.

1.1. Derivational prefixes

(1) Prefixes of North and West Germanic origin classified by accent[13]

a. Prefixed words with Accent 1

Prefix	Origin	Base	Imperative	Infinitive	Indef.sg.	Gloss
be-	WGmc	verb	be'tenk$_1$	be'tenke$_1$		*to consider*
er-	WGmc	verb	er'far$_1$	er'fare$_1$		*to find out*
for-	WGmc	verb	for'bedre$_1$	for'bedre$_1$		*to improve*
ge-	WGmc	noun			ge'byr$_1$	*fee*

b. Prefixed words with Accent 2

Prefix	Origin	Base	Imperative	Infinitive	Indef.sg.	Gloss
'for-	ON	noun			'forslag$_2$	*suggestion*
'mis-	ON	adj.			'misnøyd$_2$	*displeased*
		verb	'miskjenn$_2$	'miskjenne$_2$		*to misjudge*
		noun			'mistanke$_2$	*suspicion*
'over-	ON	verb	'oversett$_2$	'oversette$_2$		*to translate*
		noun			'overdel$_2$	*upper part*
'u-	ON	adj.			'uklar$_2$	*unclear*
		p.part.			'ukjent$_2$	*unknown*
		noun			'uhygge$_2$	*dismal*
'under-	ON	verb	'undergå$_2$	'undergå$_2$		*to experience*
		noun			'underhold$_2$	*upkeep*

13. More comprehensive lists of affixes can be found in Appendix A.

Prefix	Origin	Base	Imperative	Infinitive	Indef.sg.	Gloss
'van-	ON	verb	'vansir$_2$	'vansire$_2$		*to disfigure*
		adj.			'vanskapt$_2$	*deformed*

c. Prefixed words with Accent 1 and Accent 2

Prefix	Origin	Base	Accent	Imperative	Infinitive	Indef.sg.	Gloss
'an-	WGmc	verb	1	'anstill$_1$	'anstille$_1$		*to hire*
		noun	2			'anbud$_2$	*estimate*
'av-	ON	verb	1	'avtal$_1$	'avtale$_1$		*to arrange*
		noun	2			'avgift$_2$	*fee*
'på-	ON	verb	1	'pågrip$_1$	'pågripe$_1$		*to arrest*
		noun	2			'påkrav$_2$	*reminder*
'ut-	ON	verb	1	'utesk$_1$	'uteske$_1$		*to challenge*
		noun	2			'utbrudd$_2$	*escape*

The three sets of prefixed words in (1) contain the imperative and infinitive forms of verbs and the indefinite singular of nouns and adjectives. We give both the imperative and infinitive forms since the infinitive, although it is the usual citation form found in dictionaries, is in itself bimorphemic. The infinitive form consists of a stem (e.g. *tenk*) and infinitive suffix {-e}. Since we are only interested in the influence of prefixes on word accent at the moment, we must ensure that the infinitive suffix is not interfering with the accent. The imperative form has no inflectional suffix and is equivalent to the verb root. If the accent of the imperative is the same as the infinitive, we can be assured that the infinitive suffix has no effect on the accent. This is also what we find in (1), where the prefixed infinitive forms all have the same accent as the prefixed imperatives. This, in fact, holds true even with the unstressed prefixes in (1a), where the imperative of these verbs can only be Accent 1 because they have final stress (*be'tenk*$_1$, *er'far*$_1$). The addition of the infinitive suffix {-e} does not change the accent – these forms remain Accent 1 as well (*be'tenke*$_1$, *er'fare*$_1$).

As to the nature of these examples, it is interesting to note the correspondence between accent and origin of the prefixes. Set (1a) encompasses unstressed prefixes which are exclusively found in Accent-1 derivations and all are of West Germanic origin. Set (1b), consisting of stressed prefixes found in Accent-2 derivations, all stem from ON. Set (1c) includes both West Germanic and ON prefixes, and these prefixed forms are found with both accents.

Many of the prefixes listed in the last set (1c) are actually prepositions or adverbs, e.g. *av* 'by', *på* 'on', *over* 'over', *under* 'under', or adverbs *ut* 'out', or have homophones belonging to these groups, e.g. *an* 'to', *for* 'before'. Nevertheless, regardless of whether we are dealing with genuine prefixes or particles, whether stressed or unstressed, all of these pre-positioned morphemes influence accent assignment, as we will see in this chapter and later on in Chapter 3. Therefore, for the purpose of this study, we treat these pre-morphemes (1c) as belonging to the same group as the other prefixes (1a,b), and label them as prefixes as well.

Below we summarise the various accentual possibilities of Germanic prefixes in Standard East Norwegian:

(2) Summary of general traits of Germanic prefixes

a. Syllable count and stress

	σ	σ σ
Stressed	'av-	'over-
Unstressed	be-	

b. Accent of prefixes

	Accent 1	Accent 2
Stressed monosyllabic	'an-	'an-, 'mis-
Stressed disyllabic		'over-
Unstressed	be-	

c. Stressed monosyllabic prefixes sensitive to syntactic category

	Accent 1	Accent 2
Noun		'an-
Verb	'an-	

As (2a) shows, in Standard East Norwegian Germanic prefixes are either mono- or disyllabic if stressed and only monosyllabic if unstressed. Table (2b) illustrates that stressed prefixes can be found in either Accent-1 or Accent-2 derivations, while disyllabic prefixes are only found in Accent-2 forms and unstressed prefixes in Accent-1 derivations. Table (2c) exemplifies that the stressed prefixes found with both accents in set (2b) are sensitive to syntactic category (cf. set (1c)), i.e., the accent of these derivations corresponds to the syntactic category of the respective word. Nouns with these prefixes have Accent 2 and verbs Accent 1.

The next set of prefixes to be considered are of non-Germanic origin. Only a few of these prefixes are actually productive in Standard East Norwegian, therefore we will not spend much time on them. We will primarily focus on the effect of Germanic prefixes in this study. However, accent distribution in forms with non-Germanic affixes borrowed from Greek or the Romance languages can also be accounted for within a comprehensive analysis of accent assignment, as will become apparent as our analysis unfolds. In the following, we list a selection of non-Germanic prefixes taken largely from Faarlund et al. (1997:96).

(3) Non-Germanic prefixes

a. Prefixed words with Accent 1

Prefix	Example	Gloss
a-	'asosial$_1$	*unsocial*
	a'morf$_1$	*amorphous*
hyper-	'hypermoderne$_1$	*ultra-modern*
	hyper'bol$_1$	*hyperbole*
multi-	'multimedier$_1$	*multimedia*
	multipli'kand$_1$	*multiplier*
non-	'nonsens$_1$	*nonsense*
	non'figurativ$_1$	*non-figurative*
super-	'superelegant$_1$	*super elegant*
	superinten'dent	*bishop*
ultra-	'ultrafiolett$_1$	*ultraviolet*
	ultra'marin$_1$	*ultramarine*
øko-	'økokrise$_1$	*ecological crisis*
	øko'log$_1$	*ecologist*

b. Prefixed words with Accent 2

Prefix	Example	Gloss
erke-	'erkefiende$_2$	*archenemy*
vise-	'visepresident$_2$	*vice-president*

c. Prefixed words with Accent 1 and Accent 2

Prefix	Accent	Example	Gloss
ad-[14]	1	ad'verb$_{\mathbf{1}}$	*adverb*
	2	'adjektiv$_{\mathbf{2/1}}$	*adjective*
meta-	1	'metaspråk$_{\mathbf{1}}$	*metalanguage*
	2	meta'tese$_{\mathbf{2}}$	*metathesis*
sub-	1	'subkultur$_{\mathbf{1}}$	*subculture*
	2	'substantiv$_{\mathbf{2}}$	*noun*
syn-	1	syner'gi$_{\mathbf{1}}$	*synergy*
	2	syn'tese$_{\mathbf{2}}$	*synthesis*

As mentioned before, to exclusively illustrate the effect of prefixes on accent assignment, only words consisting of a prefix and stem should be taken into consideration. Words with final stress are also to be avoided since they can only be Accent 1. It was difficult to abide by these rules for set (3), thus some examples are listed that have final stress (e.g. *a'morf*$_{\mathbf{1}}$ 'amorphous') and some with suffixes ('*asosial*$_{\mathbf{1}}$ 'unsocial').[15]

These non-Germanic prefixes also fall into three categories of those that have Accent 1 (3a) or Accent 2 (3b) or those that vary between accents (3c). Sets (3a) and (3b) differ from the Germanic prefixes where word stress was quite constant in that these words are found with varying stress. The placement of stress, i.e., whether it is initial or not, appears to depend on the age of the loans (3a). Older loans tend to have non-initial stress (*hyper'bol*$_{\mathbf{1}}$ 'hyperbole') and newer words initial stress ('*økokrise*$_{\mathbf{1}}$ 'ecological crisis'). In fact, the pattern for new words coined with these prefixes is predominantly Accent 1 and initial stress, e.g. '*megakul*$_{\mathbf{1}}$ 'super cool'. This generalisation also applies to set (3c) although here we do not have as many productive prefixes, thus not as many examples of initial stress and Accent 1, except for '*metaspråk*$_{\mathbf{1}}$ 'meta language' which consists of a non-Germanic prefix and indigenous stem.

14. Note that there are different {ad-} prefixes (also written <at->, <åt->): Nouns: '*advent*$_{\mathbf{2}}$ 'advent' (loan from Latin), '*adgang*$_{\mathbf{2}}$ 'access' (not borrowed, composed of native {ad}{gang}), *'adkomst*$_{\mathbf{2}}$ 'access' (not borrowed, composed of native {at} {komst}); Verbs: '*advare*$_{\mathbf{1}}$ 'to warn' (only found in Bokmål), variant: *åtvare*$_{\mathbf{2}}$ (admissible to both Bokmål and Nynorsk), *adskille*$_{\mathbf{1}}$ (*at-*) 'to part'.

15. In our approach, monosyllabic words and words with final stress can differ with respect to word accent underlyingly in Norwegian, therefore we also list some prefixed words with final stress here (cf. Chapter 4).

Prefixed words with Accent 2 (set (3b)) definitely make up the smallest set. The majority of non-Germanic prefixes occur in words with Accent 1. Most exceptions to this generalisation typically have a schwa following the stressed syllable, as we can see by the forms listed here in set (3b) '*erkefiende*$_2$ 'archenemy', '*visepresident*$_2$ 'vice-president' and in set (3c) *meta'tese*$_2$ 'metathesis' and *syn'tese*$_2$ 'synthesis'. We will discuss the special status of schwa and accent assignment, as well as why loans tend to have Accent 1 in Chapter 5. A further example of a word with a non-Germanic prefix and Accent 2, which however does not have a schwa, is '*substantiv*$_2$ 'noun'. This word steps out of tune from all other {sub-} words, which all have Accent 1 and generally stress on the stem making it a candidate for set (3a). Also because new words coined with {sub-} follow the generalisation of having stress on the prefix and Accent 1, e.g. '*subkultur*$_1$ 'subculture', '*subprosjekt*$_1$ 'subproject'. The lines between these three sets are not as distinct as those for Germanic prefixes. However, we are mostly interested in the effect of productive prefixes on word accent, thus considering the prefixes in the list of productive non-Germanic prefixes provided in Faarlund et al. (1997: 96f) (*anti-, bio-, eks-, geo-, hyper-, kontra-, maksi-, mega-, mini-, mikro-, multi-, pro-, super-, ultra-, øko-*), we can summarise the effect of these prefixes on word accent by saying that – when used to coin new words – the result will normally be initial stress and Accent 1.

1.2. Derivational suffixes

In the following, we consider accent distribution in words containing derivational suffixes and simplex stems. We list native suffixes attested in Old Norse (ON), West Germanic suffixes (WGmc), and non-Germanic (non-Gmc) suffixes. These again are classified into three categories according to accent.

(4) Derivational suffixes classified by accent[16]

a. Derivational suffixes with Accent 1

Suffix	Origin	Category	Example	Gloss
-'anse	non-Gmc	noun	konfe'ranse$_1$	*conference*
-sel	ON	noun	'varsel$_1$	*warning*

16. More comprehensive lists of suffixes can be found in Appendix A.

Suffix	Origin	Category	Example	Gloss
-'er(e)[17]	non-Gmc	verb	kriti'sere$_1$	*to criticize*
-isk (cf. sk)	WGmc	adjective	euro'peisk$_1$	*European*
-'sjon	non-Gmc	noun	funk'sjon$_1$	*function*

b. Derivational suffixes with Accent 2

Suffix	Origin	Category	Example	Gloss
-(n)ing	ON	noun	'bygging$_2$	*building*
-else	WGmc	noun	'dannelse$_2$	*education*
-'esse	non-Gmc	noun	prin'sesse$_2$	*princess*
-'øse	non-Gmc	noun	suf'fløse$_2$	*female prompter*

c. Derivational suffixes with both Accent 1 and Accent 2

Suffix	Origin	Category	Accent	Example	Gloss
-dom	ON	noun	1	'usseldom$_1$	*wretchedness*
			2	'alderdom$_2$	*age*
-het	WGmc	noun	1	'klarhet$_1$	*clearness*
			2	'lumpenhet$_2$	*meanness*
-lig	ON/ WGmc	adjective	1	'ordentlig$_1$	*orderly*
			2	'rolig$_2$	*calm*
-messig	WGmc	adjective	1	'by,messig$_1$	*urban*
			2	'lov,messig$_2$	*lawful*

Like the prefixes, the derivational suffixes also seem to be fairly well divided into three sets: Those found in Accent-1 words (4a), in Accent-2 words (4b), and those found with both accents (4c). All monosyllabic suffixes bearing primary stress are naturally only found in Accent-1 forms, e.g. {-'sjon} *funk'sjon*$_1$ 'function'. Suffixes found only in Accent-2 words, unlike the prefixes, can be of Germanic or non-Germanic origin and usually end in a schwa. The derivational suffixes in set (4c) that have either Accent 1 or Accent 2 are not sensitive to syntactic categories as opposed to the prefixes we saw in (1c) because they determine the syntactic category themselves.

17. The final schwa belongs to the infinitive suffix.

(5) Summary of general traits of Standard East Norwegian derivational suffixes

a. Syllable count and stress

	σ	σ σ
Bear main stress	-'sjon	-'anse
No main stress	-sel, -bar	-messig

b. Accent of suffixes

	Accent 1	Accent 2
Bear main stress, σ	-'sjon	
Bear main stress, σ σ	-'anse	-'esse
No main stress, σ	-lig	-lig, -(n)ing
No main stress, σ σ	-ˌmessig	-ˌmessig

Derivational suffixes are either mono- or disyllabic. Like derivational prefixes we find both suffixes that bear main stress and those that do not. Monosyllabic suffixes with main stress of course can only have Accent 1 – as do all words with final stress. Stressed disyllabic suffixes generally are found in Accent-2 forms, but as we see here with {-'anse}, some are found exclusively in Accent-1 forms. As in English and other Germanic languages, this suffix is not productive and only found in loanwords, however, these are numerous ('*konfe'ranse*$_1$ ‘conference’, '*kompe'tanse*$_1$ ‘competence’). Most disyllabic derivational suffixes that bear main stress and are found in Accent-2 forms are productive and end in schwa, e.g. *prin'sesse*$_2$ ‘princess’, *blon'dine*$_2$ ‘blond’, *sanger'inne*$_2$ ‘female singer’ (cf. Appendix A for further examples). In contrast, set (4c) is made up of Germanic suffixes that never bear main stress and are found in both Accent-1 or Accent-2 categories, e.g. '*klar-het*$_1$,‘clearness’, '*lumpen-het*$_2$ ‘meanness’, suggesting that these suffixes perhaps have no or varying influence on word accent even when they are disyllabic and bear secondary stress (e.g. '*byˌmessig*$_1$ ‘urban’, '*lovˌmessig*$_2$ ‘lawful’).

Now we are equipped with most of the derivational affixes found in Norwegian grammars (Bokmål) and it appears as if the majority of them show up regularly with either one or the other of the two accents.[18] Only a few can have both accents. All this appears to point towards a definite correlation between accent and the morphological make up of a word. However, before discussing how the accentual facts concerning derivational affixes have been dealt with

18. Modern Norwegian has two written standards: *Bokmål* and *Nynorsk*. Bokmål is the standard used in this thesis, since it is the written form that most closely corresponds to Standard East Norwegian.

up to now, we conclude our survey of affixes and word accent by looking at inflectional suffixes.

1.3. Inflectional suffixes

The burden of inflection in Norwegian, like all other Germanic languages, is carried by suffixes. There are no inflectional prefixes in Norwegian or Swedish. In (6), we list stems with inflectional suffixes according to their accent. Definite articles, often categorised as inflectional suffixes in Norwegian are excluded here and will be examined separately in Chapter 3 (section 2.1.1).

(6) Inflectional suffixes

a. Inflected words with Accent 1

Suffix	Form	Category	Example	Gloss
-(e)st	SUPERLATIVE	adjective	'moden$_{2}$ > 'modnest$_{1}$	*ripe*$_{\text{SUPERLATIVE}}$

b. Inflected words with Accent 2

Suffix	Form	Category	Example	Gloss
-de	PRETERITE	verb	'levde$_{2}$	*live*$_{\text{PRETERITE}}$
-e	INFINITIVE	verb	'komme$_{2}$	*come*$_{\text{INFINITIVE}}$
-et	PRETERITE	verb	'kastet$_{2}$	*throw*$_{\text{PRETERITE}}$
-te	PRETERITE	verb	'lyste$_{2}$	*shine*$_{\text{PRETERITE}}$

c. Inflected words with both Accent 1 and Accent 2

Suffix	Form	Category	Accent	Example	Gloss
-er	plural	noun	1	'bøker$_{1}$	*book*$_{\text{PLURAL}}$
			2	'gutter$_{2}$	*boy*$_{\text{PLURAL}}$
-er	PRESENT	verb	1	'kommer$_{1}$	*come*$_{\text{PRESENT}}$
			2	'snakker$_{2}$	*talk*$_{\text{PRESENT}}$
-t	agreement	adj.	1	'supert$_{1}$	*super*$_{\text{[neuter]}}$
			2	'morsomt$_{2}$	*funny*$_{\text{[neuter]}}$

Our sample of inflectional suffixes shows that in words consisting of stem + inflection, Accent 2 is generally the accent found. Accent 1 only appears in the superlative and, as can be seen in set (6c), also in the umlauted plural and in some present tense verbs. For inflectional

suffixes, Accent-2 forms appear to outweigh Accent-1 forms on the whole. Below, we summarise the facts for the distribution of accent and inflectional suffixes.

(7) Summary of general traits of Standard East Norwegian inflectional suffixes

a. Inflectional suffixes and stress

	Nonsyllabic[19]	Monosyllabic	Disyllabic
Stressed			
Unstressed	-(e)st$_{\text{SUPERLATIVE}}$	-e$_{\text{INFINITIVE}}$	-ere$_{\text{COMPARATIVE}}$

b. Accent and syllabicity of inflectional suffixes[20]

	Accent 1	Accent 2	Accent 1/2
Nonsyllabic	-st$_{\text{SUPERLATIVE}}$		-t$_{\text{[neuter]}}$
Unstressed monosyllabic		-e$_{\text{INFINITIVE}}$	-er$_{\text{PRESENT}}$
Unstressed polysyllabic		-ere$_{\text{COMPARATIVE}}$	

We have chosen one inflection to represent each possible category. As we can see in (7a), no inflectional suffix bears stress, a very common trait throughout Germanic languages. For inflection that does not form a syllable of its own, we have listed the superlative suffix even though the superlative marker sometimes has an epenthetic schwa. We did this to point out that it is the only inflection that has varying syllabic status {-(e)st}. All other syllabic suffixes when attached to simplex words consistently have Accent 2 with the exception of the present tense marker and plural which can have either accent. However, most inflected polysyllabic words do not change accent after the addition of an inflectional suffix. Inflections added to bare monosyllabic stems, which lead to polysyllabic inflected forms, will always have Accent 2. The only exceptions are a few umlauted plurals, a handful of verbs that have Accent 1 in the present tense and the superlative suffix.

In conclusion, after seeing how the accent of a word can change when a derivational or inflectional affix is added, there definitely appears to be a correlation between affixation and accent assignment. Rischel (1960/1983) was the first to build an analysis that assumed a correlation between affixes and accent assignment, which we report on in the next section.

19. By "nonsyllabic" we mean that the suffix does not constitute a syllable on its own.
20. With the term "syllabicity", we mean whether an affix constitutes a syllable on its own (syllabic) or not (non-syllabic).

2. Previous morphological analyses

The first generative analysis of Scandinavian word accents was published by Rischel (1960/1983), who argued that tone is not dependent on the word as such but on the syllable following main stress. He came to this conclusion principally because of the behaviour of monosyllables and affixes. Monosyllables – as already mentioned – can only have Accent 1. Thus, there is no tonal opposition in monosyllabic words. However, the addition of a syllable such as an affix opens the field for both Accent 1 and Accent 2. Consider, for example, the monosyllable *hus* 'house'. If we add the definite singular article {-et} (spoken [ə]) to this stem, the result is an Accent-1 form '*huset*$_1$ 'house/the' (spoken ['hʉːsə]). If we add the infinitive suffix {-e}, however, we have '*huse*$_2$ 'to house' with Accent 2. These kinds of accent change led Rischel (1960/1983) to infer that monosyllabic stems are tonally neutral and that the accent is determined by the syllable following the root, in this case, the definite singular article or the infinitive suffix.

Rischel's research proceeded along these lines, making a definite correlation between morphemes and word tone in Rischel (1963/1983). Here he expands on his hypothesis and provides proof that more often then not, the morph following the stressed syllable determines the accent of a word. Motivated by Haugen (1963), Rischel (1963/1983) also assumes a privative analysis where most polysyllabic roots with non-final stress have inherent Accent 2. Monosyllabic stems and stems with final stress accordingly have no tone. Nevertheless, the accent of stems plays a secondary role in his analysis. He even differentiates between primary tone of suffixes and secondary tone of stems. Rischel's analysis sparked the discussion of the predictability and distribution of tone in Scandinavian and many other generative morphophonological analyses followed (e.g. Haugen 1967; Vanvik 1972; Hellan 1981; Withgott & Halvorsen 1984; Kristoffersen 1992).

In the following sections, we take a closer look at how three morphophonological analyses of the lexical distribution of tone in Standard East Norwegian and Central Swedish deal with derivational and inflectional affixation.

2.1. Withgott & Halvorsen (1984, 1988)

Withgott & Halvorsen (1984, 1988)[21] base their analysis of accent assignment in East Norwegian on autosegmental and lexical phonology. In their approach, three components play major roles in accent assignment: stress placement, the morphological make up of a word, and tone assigning processes that occur on different levels of the lexical phonology. They believe it is much too simple to argue that the suffix ultimately determines the tone as Rischel (1960/1983, 1963/1983) does. They underscore this standpoint with the fact that the derivational suffix {-het} can be found in words of either accent, i.e., with Accent 1 in some words ('*lummerhet*$_{\mathbf{1}}$ 'muggy') and Accent 2 in others ('*lumpenhet*$_{\mathbf{2}}$ 'meanness'). This tonal behaviour indicates that suffixes cannot always be the sole determining factor of word accent.

2.1.1. Tonal opposition and stems

As mentioned in Chapter 1, Withgott & Halvorsen's (1984, 1988) approach to word accent in East Norwegian (Oslo dialect) is privative on the one hand, and tritonal on the other. Tonal opposition in stems is privative and there is a three-way tonal distinction for affixes. We start our excursion into Withgott & Halvorsen's approach with their analysis of stems.

In Withgott & Halvorsen's analysis, stems can only be specified for having a lexical H. This H signifies a high tone which is associated to the main stressed syllable by tone linking rules, and corresponds to Accent 2. Thus, Withgott & Halvorsen pursue a lexical Accent-2 analysis pertaining to stems. Monomorphemic words lacking lexical tone receive a default L postlexically which associates to the main stressed syllable and results in an Accent-1 word. We discuss Withgott & Halvorsen's default accent assignment in section 2.1.5.

A quite novel attribute of Withgott & Halvorsen's analysis is that both poly- and monosyllabic stems can underlyingly bear lexical accent. This implies that monosyllabic stems can come equipped with a lexical H or Accent 2 even though they only ever can surface as Accent 1 in isolation. Nevertheless, this tonal property, they argue, is the missing piece needed to solve the puzzle of accent assignment in the present tense and in compounds with monosyllabic first constituents as we discuss in Chapter 4. We now move on to examine Withgott & Halvorsen's three-way opposition for affixes.

21. The basic approach was first developed in Halvorsen (1976).

2.1.2. Three-way opposition in affixes

To complement their privative analysis of stems and to capture the influence that affixes have on accent assignment, Withgott & Halvorsen (1984, 1988) classify affixes by three categories: H-inducing, L-inducing or tonally neutral.[22] They, unfortunately, only provide us with a few examples of each affix type, most of which are derivational. These are given below in (8) according to tonal category.

(8) Tone inducing and neutral affixes (Withgott & Halvorsen 1984:9f, 21)

a. H-inducing affixes

Affix	Stem	Gloss of stem	Affix + stem	Gloss
^{H}u-	frisk$_1$	*fresh*	'ufrisk$_2$	*spoiled*
^{H}mis-	grep$_1$	*grasp*	'misgrep$_2$	*violation*
^{H}-lig	'latter$_1$	*laughter*	'latterlig$_2$	*ridiculous*
^{H}-dom	'alder$_1$	*age*	'alderdom$_2$	*old-age*
^{H}-else	kall$_1$	*call*	'kallelse$_2$	*calling*

b. L-inducing affixes

Affix	Stem	Gloss of stem	Affix + stem	Gloss
^{L}-(e)st	'vakker$_1$	*pretty*	'vakrest$_1$	*prettiest*[23]
	'fyldig$_2$	*plump*	'fyldigst$_1$	*plumpest*
^{L}-sel	kjør$_1$	*drive*	'kjørsel$_1$	*driving*

c. Neutral affixes:[24]

Affix	Stem	Gloss of stem	Affix + stem	Gloss
-het	fin$_1$	*fine*	'finhet$_1$	*fineness*
	'lummer$_1$	*stifling*	'lummer‚het$_1$	*humidity*
	'lumpen$_2$	*mean*	'lumpen‚het$_2$	*meanness*
-aktig	'fabel$_1$	*fable*	'fabel‚aktig$_1$	*fabulous*
	'dame$_2$	*lady*	'dame‚aktig$_2$	*ladylike*

22. Withgott & Halvorsen (1984, 1988) signify these tone-inducing stems and affixes by a superscript H for Accent-2 inducing, superscript L for Accent-1 inducing, which correspond to the tone associated to the stressed syllable of Accent-2 and Accent-1 words in East Norwegian dialects.

23. The underlying stem for *vakker* 'pretty' is monosylabic /*vakr*/, which surfaces in the plural (*vakre*), comparative (*vakrere*) and superlative (*vakrest*).

24. A further neutral affix is the present tense suffix {-er}, which will be discussed in section 2.1.6.

As can be seen by the examples in (8), Withgott & Halvorsen (1984) classify the first set as H-inducing because these affixes bring about Accent 2 in words that have Accent 1 in isolation. The tone-bearing prefix {^{H}u-}, for example, when added to monosyllabic *frisk*$_{1}$ 'unspoiled' produces the Accent-2 derivation '*ufrisk*$_{2}$ 'spoiled', as does the suffix {^{H}-lig} when added to *latter*$_{1}$ 'laugh' ('*latterlig*$_{2}$ 'ridiculous').

Following this pattern, L-inducing affixes result in Accent 1 when added to stems (8b). The superlative suffix {^{L}-(e)st} is one example of an L-inducing suffix. It produces Accent-1 forms when added to the monosyllabic stem *kjær*$_{1}$ 'dear' or to the derived disyllabic Accent-2 '*fyldig*$_{2}$ 'plump', e.g. '*kjærest*$_{1}$ 'dearest', '*fyldigst*$_{1}$ 'plumpest'. The neutral affixes presented in (8c), in contrast, do not alter word accent as shown here in the derivations containing the suffix {-het}: '*finhet*$_{1}$ 'fineness', '*lummerhet*$_{1}$ 'humidity', '*lumpenhet*$_{2}$ 'meanness'. In the following, we now demonstrate how affixation affects accent assignment according to Withgott & Halvorsen.

(9) Accent assignment and affixation according to Withgott & Halvorsen (1984, 1988)

a. H-inducing affixes:

Stem	Affix + stem	Association of floating H	Accent assignment	Gloss
frisk$_{1}$	^{H}u + frisk >	^{H}'ufrisk	'ufrisk$_{2}$	*spoiled*
latter$_{1}$	latter + ^{H}lig >	^{H}'latterlig	'latterlig$_{2}$	*ridiculous*

b. L-inducing affixes:

Stem	Affix + stem	Association of floating L	Accent assignment	Gloss
kjør$_{1}$	kjør + ^{L}sel >	^{L}'kjørsel	'kjørsel$_{1}$	*driving*
vakker$_{1}$	vakr + ^{L}est >	^{L}'vakrest	'vakrest$_{1}$	*pretty*$_{\text{SUPERLATIVE}}$
fyldig$_{2}$	fyldig + ^{L}st >	^{L}'fyldigst	'fyldigst$_{1}$	*plump*$_{\text{SUPERLATIVE}}$

The examples in (9a) illustrate accent assignment with H-inducing affixes {^{H}u-} and {-^{H}lig}. In the first column, we list the accent of the stem as an isolated word (e.g. *frisk*$_{1}$ has Accent 1). In the second column, all tones of stems and affixes are given. Here we see that both the prefix {^{H}u-} and suffix {-^{H}lig} are equipped with floating H tones. In the third column, stress is assigned and main stress attracts any floating tones of the derivation, e.g. the floating H of {^{H}-lig} attaches to the main stressed syllable of ^{H}'*latterlig*. This linked H gives the whole derivation Accent 2, '*latterlig*$_{2}$ 'ridiculous', as can be seen in the fourth column.

Accent assignment functions in the same way for words containing an L-inducing affix, as illustrated in (9b). The floating L of {-ᴸsel},{-ᴸ(e)st} links to the main stressed syllables of ᴸ'*kjørsel* and ᴸ'*vakrest* producing Accent-1 forms '*kjørsel*$_1$ 'driving' and '*vakrest*$_1$ 'prettiest'. Finally, the superlative suffix {-ᴸ(e)st} attaches to the Accent-2 form *fyldig*$_2$, producing '*fyldigst*$_1$ 'plumpest'.

Unfortunately, Withgott & Halvorsen (1984, 1988) do not provide all the tonal possibilities here for these tone-inducing suffixes. They leave out a few details by not including examples of Accent-1 {-lig} derivations, for example, '*ordentlig*$_1$ 'orderly', as we saw in (4c). If {-lig} is indeed Accent-2 inducing, how would Withgott & Halvorsen explain Accent 1 here? Recall that stems for Withgott & Halvorsen only may bear lexical Accent 2. Therefore, the stem cannot be the causing Accent 1, but neither can the suffix if it is truly H-inducing.

Another blemish on Withgott & Halvorsen's approach concerns their examples used to illustrate the L-inducing properties of {-ᴸsel} and {-ᴸ(e)st}. These examples are not totally convincing since the forms they attach to already have Accent 1 from the start (i.e., *kjør*$_1$, '*kjørsel*$_1$; '*vakker*$_1$, '*vakrest*$_1$). The Accent-1 inducing suffixes {-ᴸsel} and {-ᴸ(e)st} could also be said not to alter the tone at all – resembling the neutral suffixes in (8c). A more convincing example would be a monomorphemic polysyllabic word that has Accent 2 in isolation, which takes on Accent 1 when suffixed with a L-inducing suffix. However, the only example of a L-inducing suffix attaching to an Accent-2 polysyllabic word that Withgott & Halvorsen (1984, 1988) provide is {-ᴸ(e)st}, which attaches to the already suffixed form '*fyld-ig*$_2$. Multi-affixed words behave differently in relation to accent assignment, which we will see later on in section 2.1.4. It is, therefore, difficult to be convinced of the actual Accent-1 inducing qualities of {-ᴸsel} and {-ᴸ(e)st}. When scrutinised more closely, the suffix {-ᴸsel} in fact appears only on monosyllabic stems, producing Accent-1 derivations, as can be seen from the following examples.

(10) Examples of words suffixed with {-sel}

a. Monomorphemic stems			b. Complex forms		
Stem + {-sel}	Accent	Gloss	Prefixed form + {-sel}	Accent	Gloss
'bren-sel	'brensel$_1$	*firewood*	'anfør-sel	'anførsel$_2$	*command*
'leng-sel	'lengsel$_1$	*longing*	'etterspør-sel	'etterspørsel$_2$	*demand*
'bind-sel	'bindsel$_1$	*bandage*	'tilfør-sel	'tilførsel$_2$	*supply*
'før-sel	'førsel$_1$	*transport*	'avkjør-sel	'avkjørsel$_2$	*exit*
'gjød-sel	'gjødsel$_1$	*manure*	'advar-sel	'advarsel$_2$	*warning*
'hør-sel	'hørsel$_1$	*hearing*	'forvar-sel	'forvarsel$_2$	*prewarning*

As illustrated in (10), the suffix {-sel} only attaches to monomorphemic stems that are monosyllabic (10a), resulting in Accent-1 forms, or it also can be found complex derivations with Accent 2 (10b). The question arises, that if {-sel} is Accent-1 inducing, why does it fail to do so in these complex derivations?

Cases of the superlative suffix attaching to polysyllabic monomorphemic adjectives are also difficult to find. Norwegian, like English, has periphrastic inflection in most polysyllabic adjectives, but there are words ending in *-ig*, *-lig*, *-som*, e.g. '*viktig*$_2$ 'important', '*viktigst*$_1$ 'most important', '*farlig*$_2$ 'dangerous', '*farligst*$_1$ 'most dangerous', '*morsom*$_2$ 'funny', '*morsomst*$_1$ 'funniest'. These derived examples give us more evidence that the superlative suffix does induce Accent 1 and to a greater extent than {-sel}. However, for lack of more evidence we will just have to assume that both {-^{L}sel} and {-^{L}(e)st} behave differently than neutral affixes for the time being – even though there is no immediate proof of their L-inducing capacities with simplex stems. We will discuss accent assignment and multiple affixation in more detail in section 2.1.4 of this chapter.

The next objects that deserve closer investigation are Withgott & Halvorsen's neutral affixes. Using the neutral suffix {-het}, we illustrate how neutral affixes and accent assignment operate in Withgott & Halvorsen's approach.

(11) Neutral affixes and accent assignment

	Stem	Stem +{-het}	Association of stem's H	Accent assignment	Gloss
a.	lummer$_1$	lummer + het >	no tone - default L	'lummerhet$_1$	*humidity*
b.	lumpen$_2$	^{H}lumpen + het >	^{H}'lumpenhet	'lumpenhet$_2$	*meanness*

Withgott & Halvorsen (1984, 1988) label affixes that have no affect on the accent of a word as neutral (cf. (8c)). Given the examples in (11), we see that regardless of whether we start out with an Accent-1 stem '*lummer*$_{\mathbf{1}}$ (11a) or with an Accent-2 stem '*lumpen*$_{\mathbf{2}}$ (11b), attaching a suffix, such as {-het}, will not change the accent. Withgott & Halvorsen (1984, 1988) claim this is because {-het} is a neutral suffix which bears no tone. Thus, the only tone that is available to link up to the stressed syllable must come from the stem – be it a H (*lumpen*$_{\mathbf{2}}$) or default L (*lummer*$_{\mathbf{1}}$). The stem *lumpen*$_{\mathbf{2}}$ has Accent 2, which indicates for Withgott & Halvorsen that it bears a H on the main stressed syllable ($^{\mathbf{H}}$*lumpen*) and ultimately also causes the Accent-2 derivation ('*lumpenhet*$_{\mathbf{2}}$ 'meanness'). The word '*lummer*$_{\mathbf{1}}$ has no inherent tone, therefore, when the toneless suffix {-het} attaches to it, the result is a default L and Accent 1. We explain how default tone assignment works for Withgott & Halvorsen (1984, 1988) below in section 2.1.5.

Withgott & Halvorsen (1984) represents one of the most in-depth analyses on word accent assignment since Rischel (1960/1983). Their approach helps to elucidate how words can be broken down into individual tone-bearing components and reveals the basic tools for determining accent assignment in most categories of words, although in an extremely complex way. Unnecessarily complex, as will become more and more evident in what follows and when we present our analysis in Chapter 3. However, to be able to compare Withgott & Halvorsen's approach to the other analyses discussed in this chapter and to our analyses presented in Chapter 3, we must provide the remaining tools needed for Withgott & Halvorsen's (1984, 1988) analysis and illustrate why these are necessary with a few examples.

2.1.3. Prefixes with Accent 1/Accent 2 according to syntactic category of stem

Besides the three strict classes of affixes (H-inducing, L-inducing and neutral) described up to now, we also saw in (1c) that there is an additional set of prefixes which are found in both Accent-1 and Accent-2 words, e.g. {an-}: '*anstille*$_{\mathbf{1}}$ 'to hire', '*anbud*$_{\mathbf{2}}$ 'estimate' that cannot be classified as neutral. We also saw in the summary of derivational prefixes in (3c) that there is a correlation of accent and syntactic category. These prefixes systematically take Accent 1 with verbs and Accent 2 with nouns. Withgott & Halvorsen posit that these prefixes have both L-inducing and H-inducing capacities. The appropriate floating tone is determined according to the syntactic category of the form to which it attaches. This means that the same affix is H-

inducing when prefixed to a noun and L-inducing when prefixed to a verb, e.g. {^{H}om-}$_{NOUN}$, {^{H}på-}$_{NOUN}$, {^{L}om-}$_{VERB}$, {^{L}på-}$_{VERB}$, as can seen below in (12).

(12) Accent-changing prefixes

a. H-inducing prefixes in nominal derivations:

Prefix	Stem/ noun	Gloss of stem	Prefix + stem/ noun	Gloss
^{H}om-	sorg$_1$	*grief*	'omsorg$_2$	*care*
^{H}på-	bygg$_1$	*building*	'påbygg$_2$	*addition*

b. L-inducing prefixes in verbal derivations:

Prefix	Stem/ verb	Gloss of stem	Prefix + stem/ verb	Gloss
^{H}om-	'bringe$_2$	*to bring*	'ombringe$_2$	*to deliver*
^{H}på-	'kjøre$_2$	*to drive*	'påkjøre$_1$	*to run into*

Here we see that according to Withgott & Halvorsen (1984, 1988), the same affix must be specified in the lexicon for bearing both an L and an H. The L only surfaces with verbs and the H exclusively with nouns. How Withgott & Halvorsen believe this functions, is illustrated below in (13).

(13) Accent-changing prefixes in action

a. Nouns and H-inducing prefixes

Stem	Affix + stem	Association of floating H	Accent assignment	Gloss
sorg$_1$	^{H}om + sorg	^{H}'omsorg	'omsorg$_2$	*care*
bygg$_1$	^{H}på + bygg	^{H}'påbygg	'påbygg$_2$	*addition*

b. Verbs and L-inducing prefixes

Stem	Affix + stem	Association of floating H	Accent assignment	Gloss
bring-e$_2$	^{L}om + bring-e	^{L}'ombringe	'ombringe$_1$	*to deliver*
kjør-e$_2$	^{L}på +kjør-e	^{L}'påkjøre	'påkjøre$_1$	*to run into*

The affixes {om-} and {på-} bear floating H tones when they attach to nouns, as can be seen in the second column in (13a). Stress assignment places stress on the prefixes, as shown in column three, and the floating H of the prefix links to the main stressed syllable resulting in Accent-2 nouns in column four, i.e., '*omsorg*$_2$ 'care', '*påbygg*$_2$ 'addition'. When these same prefixes attach to verbs, as shown in (13b), they no longer bear floating H tones but floating L

tones, i.e., ^{L}*om* + *bringe*, ^{L}*på* + *kjøre*. The floating L attaches to the main stress and consequently these derivations surface as Accent-1 verbs ('*ombringe*$_{1}$'to deliver', '*påkjøre*$_{1}$ 'to run into'). The floating tones of these prefixes always dominate regardless of whether it is a L or H tone. The trick is letting the syntax reveal which tone is appropriate. This, however, is not always so transparent. If we consider a derivation like {på}{kjør}{sel} and we know that this is an Accent-2 word, then we would have to say that phonologically, following Withgott & Halvorsen, the structure is *på* + *kjørsel* ('on, upon' + 'drive, driving'), i.e., that {på} is attaching to a noun since it induces Accent 2. Semantically, however, it is more plausible that '*påkjørsel*$_{2}$ 'crash' is derived from the verb '*påkjøre*$_{1}$ 'to run into' with the addition of the suffix {-sel}. However, this would suggest that {på} attaches to a verb and is consequently L-inducing. According to Withgott & Halvorsen (1984, 1988) {-sel} is also L-inducing thus we should have an Accent-1 word **påkjørsel*$_{1}$. This is a typical case of a bracketing paradox, where the semantics calls for one bracketing and the phonology for another.

2.1.4. Classes of dominance

Withgott & Halvorsen's (1984, 1988) analysis, as we have presented thus far, however, is not yet complete. We have only considered how it can account for accent assignment in mono- and bimorphemic words not multi-affixed words like *be-stemm-else* >*bestemmelse*$_{1}$ 'decision'. Thus, we move onto Withgott & Halvorsen's analysis of words that are made up of more than one tone-bearing morpheme, e.g. '*omarbeidelse*$_{1}$ 'reworking', '*hederligst*$_{1}$ 'most honest'. Following Withgott & Halvorsen's analysis, these words consist of three and two tone-bearing constituents respectively, i.e., {^{L}om}$_{\textbf{VERB}}$ {^{H}arbeid} ^{L}{else} and {heder} {^{H}lig} {^{L}st}. In such polymorphemic words, which have more than one floating tone, the question is how to identify the tone that will ultimately win over the main stressed syllable and determine the tone of the whole derivation. Below in (14) we review Withgott & Halvorsen's analysis for '*hederligst*$_{1}$ 'most honest'.

(14) A multi-affixed word *hederligst* 'most honest' and accent assignment

	Stem	Affix + stem	Association of floating H	Accent assignment	Gloss
a.	heder$_{1}$	heder + ^{H}lig >	^{H}hederlig	'hederlig$_{2}$	*honest*
b.	^{H}hederlig	^{H}hederlig + ^{L}st >	$^{\#L}$'hederligst	'hederligst$_{1}$	*most honest*

The H-inducing affix {-^{H}lig} succeeds in determining the accent in *hederlig*$_{2}$ ‘honest’ (14a), but not in '*hederligst*$_{1}$ ‘most honest’ (14b). The floating L of the superlative suffix {-^{L}(e)st} apparently wins out over the floating H of the derivational suffix {-^{H}lig}. Thus, we see here that Withgott & Halvorsen (1984, 1988) need another set of classifications for morphemes to be able to predict which tone will triumph in such multi-derivations. They, consequently, posit that tone-bearing morphemes fall into two categories of dominance, namely weak or strong.

(15) Weakly dominant affixes

Weakly dominant affixes dominate over the tone of the stem but not over other affixes:

	Affix	Affix + stem		Association of tone		Accent assignment	Gloss
a.	-^{H}lig	latter$_{1}$ + ^{H}lig	>	^{H}'latterlig	>	'latterlig$_{2}$	*ridiculous*
b.	-^{H}else	kall + ^{H}else	>	^{H}'kallelse	>	'kallelse$_{2}$	*calling*$_{NOUN}$
c.	-^{L}sel	kjør + ^{L}sel	>	^{L}'kjørsel	>	kjørsel$_{1}$	*driving*$_{NOUN}$

Weakly dominant affixes are only able to override the tone of the stem as in for example (15a) *latterlig*$_{2}$ where {-^{H}lig} induces Accent 2, i.e., it overrides the default L of *latter*$_{1}$, resulting in *latterlig*$_{2}$ ‘ridiculous’. The same is true of {-^{H}else} and {-^{L}sel} in (15b,c). We see that the suffix {-^{L}sel}, which Withgott & Halvorsen (1984, 1988) claim bears a floating L, induces Accent 1 in *kjørsel*$_{1}$ ‘driving$_{NOUN}$’, and {-^{H}else} induces Accent 2 in *kallelse*$_{2}$ ‘calling$_{NOUN}$’. However, these examples only show how H-inducing or L-inducing affixes can change a monosyllabic Accent 1 into Accent 2 or not change the accent at all respectively.

The L-inducing affix {-sel} that Withgott & Halvorsen list as weakly dominant attaches exclusively to monosyllabic stems as we saw in (10), which in effect remain Accent 1 after suffixation as well. The effect of all weakly dominant suffixes can at this point be summarised as only ever dominating over the accent of the stem if it has Accent 1. These affixes are not strong enough to determine the accent when another, stronger affix is added, as we see below in (16a).

(16) Strongly dominant affixes

Strongly dominant affixes dominate the tone of everything:

	Affix	Affix +stem	Association of tone	Accent assignment	Gloss
a.	$^{L/H}$på-	^{H}på + kjør + ^{L}sel >	^{H}'påkjørsel >	'påkjørsel$_{2}$	*crash*
b.	$^{L/H}$om-	^{L}om + ^{H}arbeid + ^{H}else >	^{L}omarbeidelse >	'omarbeidelse$_{1}$	*reworking*

Although the semantics tell us that {-^{L}sel} is suffixed to the verb '*påkjøre*$_{1}$ 'to run into' as we saw in (13), for Withgott & Halvorsen's analysis it must be as follows. In (16a), the strongly dominant prefix {^{H}på-} is added to the derived noun *kjørsel*$_{1}$, and is therefore in its H-inducing capacity. This H overrides the L of the weakly dominant prefix {-^{L}sel}, resulting in Accent-2 '*påkjørsel*$_{2}$ 'crash'. According to Withgott & Halvorsen's (1984, 1988) examples, strongly dominant affixes seem to be exclusively prefixes – stressed prefixes to be exact. Perhaps the dominance of these affixes lies in the fact that they bear main stress as opposed to the weakly dominant affixes which all appear to be unstressed suffixes. These prefixes, like {^{L}om-}$_{\text{VERB}}$, always determine the tone of a multi-affixed form, like '*omarbeidelse*$_{1}$ 'reworking' (cf. (16b)). In fact, {$^{L/H}$om-} and {$^{L/H}$om-} always dominate regardless of whether they are L-inducing or H-inducing. However, there are strongly dominant affixes lacking main stress that Withgott & Halvorsen (1984, 1988) do not discuss, which induce Accent 1, e.g. {be-}, {for-}, as we saw in (1a). We give a few examples below in (17).

(17) Unstressed Accent-1 inducing prefixes:

Prefix	Infinitive	Gloss	Prefix + infinitive	Accent assignment	Gloss
^{L}be-	tenk-^{H}e	*to think*	^{L}be + ^{H}tenke	be'tenke$_{1}$	*to consider*
^{L}for-	bedr-^{H}e	*to better*	^{L}for + ^{H}bedre	for'bedre$_{1}$	*to improve*

Although Withgott & Halvorsen (1984, 1988) do not discuss these prefixes, following their reasoning, these prefixes should be included in their category of strongly dominant L-inducing affixes because they turn Accent-2 infinitives into Accent-1 infinitives. The floating L tones win out over the H-inducing infinitive suffixes. Thus, the strength of strongly dominant affixes cannot lie in their capacity of bearing main stress.

Withgott & Halvorsen's approach, however, still cannot sufficiently account for all possible scenarios of accent assignment. For example, it cannot account for the difference in accent of monosyllables vs. polysyllables in the plural, as we will see in (21). Withgott & Halvorsen

must integrate the rules of tonal behaviour of stems and affixes with the correct ordering of morphological and phonological processes for to correctly explain all accent distribution. As we will see, they attribute the differences in accent of nouns in the plural to the different levels of lexical phonology in East Norwegian and what processes belong to each level. It is peculiar that their classes of dominance do not follow from level ordering directly.

2.1.5. Levels of word formation

To sum up thus far, Withgott & Halvorsen (1984, 1988) put forward an analysis in which stems have a privative opposition where Accent 2 is lexically specified and affixes are categorised as either Accent-2 inducing, Accent-1 inducing or neutral. A few affixes come equipped with both an L and H, and thus have to be specified for syntactic category. These are Accent-2 inducing with nouns and Accent-1 inducing with verbs. Thus, lexical specification for tone is not enough – the syntax also must be consulted. However, to correctly predict which tone-bearing suffix will ultimately determine the accent of a derived word, Withgott & Halvorsen claim one must also know how dominant a tone-bearing affix is. Some affixes are only strong enough to dominate over stems and others are omnipotent, dominating over all other tones of a derivation. One logical question is whether stems ever win out over suffixes such as in the plural of polysyllabic nouns because they always retain the accent they have in the singular.

Withgott & Halvorsen (1984:21) posit that the plural suffix {-er} is H-inducing (e.g. '*stol*$_{\mathbf{1}}$ ‘chair’, '*stoler*$_{\mathbf{2}}$ ‘chairs’) – yet all polysyllabic Accent-1 words retain their Accent 1 in the plural, e.g. '*villa*$_{\mathbf{1}}$ ‘villa’, *villaer*$_{\mathbf{1}}$ ‘villas’; *ek'sempel*$_{\mathbf{1}}$, ‘example’ *ek'sempler*$_{\mathbf{1}}$ ‘examples’. Now we have an example of a suffix that dominates over stems, however, only monosyllabic stems – similar to {-sel}. Fortunately, the plural {-er} also attaches to polysyllabic monomorphemic stems and here we see that it seems to call for another kind of dominance – where the tonal specification of stems, i.e., default Accent 1, wins out over the tone of the affix. Nonetheless, instead of classifying the affixes into yet another category, this is where Withgott & Halvorsen (1984, 1988) bring in lexical phonology. Following Kiparsky (1982), they argue that morphological processes occur on different levels, one after another. “We have found that the distribution of tone accent is a direct and predictable consequence of the interaction between tone-inducing properties of morphological elements and the principled behaviour of tone

assignment rules operating in different ways on level 2 and level 1." (Withgott & Halvorsen 1988:9).

Before answering our question about how exactly Withgott & Halvorsen (1984, 1988) claim plural formation and accent assignment works, let us give a quick overview of the two levels of Norwegian lexical phonology they propose.

According to Withgott & Halvorsen (1984), in East Norwegian, Level 1 of the lexical morphology contains unpredictable inflectional processes (e.g. umlauting), derivational affixation, and compound formation. On Level 2 of the morphology, we find that here flexional agreement, plural formation, and suffixation of the definite article are implemented, as illustrated below in (18).

(18) Levels of Norwegian lexical phonology

	Morphology	Phonology
Level 1	**unpredictable inflection:** (umlauted plural {-er})	stress assignment, accent assignment
	derivational affixation: ({$^{L/H}$om}-, {$^{L/H}$på-}, {^{L}-sel}, {^{H}u-}, {^{H}mis-}, {^{H}-lig}, {^{H}-dom}, {^{H}-else}, {-het}, {-aktig}),	
	compounding	
Level 2	**regular inflection**: flexional agreement regular plural formation {-^{H}er}, definite article affixation {-^{L}en}/{-^{L}et}, superlative {-^{L}(e)st}, present tense {-er}	stress assignment, accent assignment

Words start with Level-1 morphology where they may receive one of many derivational affixes, or the umlauted plural may apply or they may undergo compounding. After Level-1 morphology, a form proceeds to Level-1 phonology where it receives stress and accent assignment according to its components as shown below in (19).

(19) Interaction of morphology and phonology on Level 1

Morphology			Phonology		Gloss
	Stem	Affix + stem	Stress & tone association	Accent assignment	
a.	^{H}lumpen	^{H}lumpen + het >	^{H}'lumpenhet	'lumpenhet$_{2}$	*meanness*
b.	kjær	kjær + ^{L}est >	^{L}'kjærest	'kjærest$_{1}$	*dearest*
c.	latter	latter + ^{H}lig >	^{H}'latterlig	'latterlig$_{2}$	*ridiculous*
d.	fin	fin + het >	^{L}'finhet$_{[default]}$	'finhet$_{1}$	*fineness*
e.	travel	travel + het >	^{L}'travelhet$_{[default]}$	'travelhet$_{1}$	*hurry*

If a word is lexically specified for bearing a H tone as ^{H}*lumpen* in (19a), or attaches a tone-inducing suffix like {-^{L}(e)st} or {-^{H}lig} in (19b,c), the complex or simplex form is assigned Accent 1 or 2 according to the inherent or floating tone linked to the main stressed syllable at the end of Level 1. Otherwise, forms coming out of Level 1 without a linked H or L tone (19d,e) receive default Accent 1, i.e., a default L links up to any primary stress left unlinked.

In Withgott & Halvorsen's (1984, 1988) approach, only polysyllabic forms have a genuinely linked L after Level 1. This means that monosyllables are assigned an L or Accent 1 at the end of Level 1, but this tone is not truly linked to the stressed syllable because tone can only link to lexical stress. They argue that a word only has lexical stress when there is an opposition of stressed and unstressed syllables, therefore a form needs at least two syllables to have lexical stress. Since tone only links to lexical stress, and monosyllables have no lexical stress, they are consequently incapable of having a linked tone. Withgott & Halvorsen (1984) claim that this explains why, for example, the L-inducing definite singular suffixes {-^{L}en}/-^{L}et} give all monosyllables Accent 1 on Level 2, yet, fail to change the tone of polysyllables. Below we illustrate the differences between mono- and polysyllabic nouns in the definite singular.

(20) Default accent assignment according to Withgott & Halvorsen (1984)

Level 1:

	Stem	Stress & tone association	Accent assignment	Gloss
a.	gutt	gutt (*no lexical stress*) >	^{L}gutt (*default – not linked*)	*boy*
b.	gull	gull (*no lexical stress*) >	^{L}gull (*default – not linked*)	*gold*
c.	^{H}pike	^{H}'pike >	^{H}'pike (*inherent – linked*)	*girl*
d.	villa	'villa >	^{L}'villa (*default – linked*)	*villa*

⇓

Level 2:

	Output Level 1	Affixation	Stress & tone association	Accent assignment	Gloss
a.	^{L}gutt[25]	^{L}gutt + ^{L}en	^{L}'gutten	'gutten$_{1}$	*boy/the*
b.	^{L}gull	^{L}gull + ^{L}et	^{L}'gullet	'gullet$_{1}$	*gold/the*
c.	^{H}'pike	^{H}'pike + ^{L}en	Level 1	'piken$_{2}$	*girl/the*
d.	^{L}'villa	^{L}'villa + ^{L}en	Level 1	'villaen$_{1}$	*villa/the*

All polysyllabic forms (20c) ^{H}*pike* 'girl', (20d) *villa* 'villa' receive main stress in column two of Level 1 (^{H}'*pike*, '*villa*) to which the lexical or default tone links up in column three (^{H}'*pike*, ^{L}'*villa*). Monosyllabic forms (20a) *gutt* 'boy', (20b) *gull* 'gold' do not fulfil the requirements for receiving lexical stress (minimally two syllables) and therefore are incapable of having linked tone. Thus the output of Level 1 has a linked H in (20c) ^{H}'*pike* 'girl' and linked L in (20d) ^{L}'*villa* 'villa' as opposed to unlinked L tones in (20a) ^{L}*gutt* 'boy' and (20b) ^{L}*gull* 'gold'.

On Level 2, the tone of all polysyllables is already linked, thus these forms will not be affected by tone-bearing morphemes. As we see in (20c,d), the main stressed syllable in ^{H}'*pike* is already occupied by a H tone and in ^{L}'*villa* by a L tone. Therefore, the regular plural suffix attaches, but its floating H is left stranded and the linked tone from Level 1 is retained, i.e., the accent does not change (*'pike$_{2}$, 'piker$_{2}$; 'villa$_{1}$, villaer$_{1}$)*. Monosyllables undergo affixation, as can be seen in column two of Level 2 (cf. (20a) *gutt* + ^{L}*en*, (20b) *gull* + ^{L}*et*), thus creating a disyllable and a new environment for main stress assignment. In column three, the floating L of

25. We will signify words with default but unlinked Accent 1 with an uppercase italicized 'L' without a stress mark before the form (^{L}*gutt*) to be able to keep them apart from words with linked default tone which have a stress mark and a bold uppercase 'L' before the form (^{L}'*villa*).

the definite singular suffix then links to the main stressed syllable, i.e., ^{L}'*gutten*, ^{L}'*gullet*, giving us the two Accent-1 forms '*gutten*$_1$ 'boy/the', '*gullet*$_1$ 'gold/the' in column four.

These rules imply that whatever accent a polysyllabic word has, none of the tone-inducing suffixes on Level 2, such as the L-inducing definite singular suffix or the H-inducing plural suffix, will change this. Only monosyllables are tonally affected by suffixes on Level 2. Thus, we now have our answer to the accentual behaviour of the H-inducing plural suffix with mono- and polysyllables. Polysyllabic words have linked tone and therefore do not change their accent when the H-inducing plural suffix is attached on Level 2 but monosyllabic words will, as we illustrate below in (21).

(21) Plural formation and accent assignment on Level 2

Level 1:

	Stem	Stress & tone association	Accent assignment	Gloss
a.	gutt	gutt (*no main stress*) >	^{L}gutt (*default – not linked*)	*boy*
b.	gull	gull (*no main stress*) >	^{L}gull (*default – not linked*)	*gold*
c.	pike	'pike >	^{H}'pike (*inherent – linked*)	*girl*
d.	villa	'villa >	^{L}'villa (*default – linked*)	*villa*

⇓

Level 2:

	Output Level 1	Affixation	Stress & tone association	Accent assignment	Gloss
a.	^{L}gutt	^{L}gutt + ^{H}er	^{L}'gutten	'gutter$_2$	*boy/the*
b.	^{L}stol	^{L}stol + ^{H}er	^{H}'stoler	'stoler$_2$	*chairs/the*
c.	^{H}'pike	^{H}'pike + ^{H}er	Level 1	'piker$_2$	*girl/the*
d.	^{L}'villa	^{L}'villa + ^{H}er	Level 1	'villaer$_1$	*villa/the*

Here we see in the second column of Level 2 that the plural suffix {-^{H}er} comes with a floating H. This floating tone is able to attach to the main stressed syllable in column three of the monosyllabic words in (21a) and (21b), since their default L could not link. Hence, all monosyllabic forms come into Level 2 with unlinked L tones (Accent 1) and end up either with linked H tones (Accent 2) if they take the {-^{H}er} plural suffix, i.e., '*gutt*$_1$, '*gutter*$_2$, or they receive default Accent 1 if they take a {-Ø} suffix, i.e., '*gull* 'gold', '*gull*$_1$ 'golds'. Withgott & Halvorsen (1984) cannot classify the {-er} suffix as weakly dominant, as they did for {-^{H}lig}, {-^{H}else}, and {-^{L}sel} in (15), since it does not win over the tone of the stem in the polysyllabic

forms in (21c) and (21d). These stems retain the same accent as they had coming into Level 2, i.e., '*pike*$_2$, '*piker*$_2$, '*villa*$_1$, '*villaer*$_1$.

The next section deals with a homophone of the plural suffix, the present tense marker {-er}, which also can be found in Accent-1 and Accent-2 forms as we saw in (6c). Accent assignment here cannot be solved with the different levels of lexical phonology, degree of dominance or with the difference in syntactic category.

2.1.6. Present tense and underlying tonal opposition of monosyllables

In East Norwegian, the present tense marker {-er} is segmentally identical to the plural suffix, and since it belongs to the category of regular inflection, it also is suffixed on Level 2. However, Withgott & Halvorsen (1984) argue that it does not determine the tone of monosyllabic stems. In fact, when attached to a monosyllabic verbal stem, it can result in an Accent-1 or Accent-2 form as we see below.

(22) Present tense marker and accent assignment (Withgott & Halvorsen 1984: 22)

	Stem + suffix	Accent	Gloss
a.	*spis* + *er* >	spiser$_1$	*eats*
b.	*løp* + *er* >	løper$_1$	*runs*
c.	*kjøp* + *er* >	kjøper$_2$	*buys*
d.	*knis* + *er* >	kniser$_2$	*giggles*

Although we have seen prefixes that change tone according to the syntactic category of the stem when they attach to a noun or a verb (e.g. '*omsorg*$_2$ 'care' vs. '*ombringe*$_1$ 'to deliver', cf. section 2.1.3), here we are solely dealing with verbs. In section 2.1.5, we also saw homophonous inflectional suffixes that differ in tone because of the level at which they attach, e.g. umlauted plural {-er} (Level 1), and regular plural {-$^{\text{H}}$er} (Level 2). Thus, we are left with two possibilities, either the difference lies in the level of suffixation or in the stems. Withgott & Halvorsen (1984) see the reason for the difference in accent as being attributed to the stems.

As mentioned earlier, Withgott & Halvorsen (1984) need one more essential specification of stems to complete their analysis. They posit that monosyllables, although they are only ever Accent 1 on the surface, can be specified for having a H in their abstract representation. According to Withgott & Halvorsen (1984), the true colours of monosyllables, i.e., whether

they have a floating H or not, become apparent in the present tense forms and in compounds. Let us, therefore, take a closer look at their analysis of monosyllabic stems in the present tense.

Withgott & Halvorsen (1984) contend that the present tense marker {-er} is a toneless, neutral morpheme like the derivational suffix {-het}. It then follows that since present tense forms surface with both Accent 1 or Accent 2, as we saw in (6c), and present tense formation takes place on Level 2 (cf. (18)), the tone must then be a property of the stem.

Withgott & Halvorsen (1984) believe that the true tonal properties of stems is suppressed in monosyllabic forms and is first capable of surfacing when a new disyllabic environment is available. They give the two examples '*spiser*$_{\mathbf{1}}$ 'eat$_{\text{PRESENT}}$' and '*kjøper*$_{\mathbf{2}}$ 'buy$_{\text{PRESENT}}$'. Here they argue that the stem {spis-} has no inherent tone, but that {$^{\text{H}}$kjøp-} must come with a floating H, because it appears as soon as there is a lexical stress to which it can attach, i.e., in a disyllabic environment. Consequently, the floating H can be manifested in the disyllabic present tense form '*kjøper*$_{\mathbf{2}}$, giving it Accent 2, and consequently '*spiser*$_{\mathbf{1}}$, which is not specified for bearing a floating H, receives default Accent 1. Withgott & Halvorsen (1984) also predict that compounds containing these two stems {spis-}, {$^{\text{H}}$kjøp-} as first constituent should also have Accent 1 and Accent 2, respectively, as we will discuss in Chapter 4.

2.1.7. Remaining problems and open questions

Now we have all the tools provided for us by Withgott & Halvorsen (1984, 1988) to predict accent assignment for monomorphemic and complex words in Oslo Norwegian. Unfortunately, their analysis makes many false predictions and there are still many open questions. As we have seen, Withgott & Halvorsen's (1984, 1988) analysis calls for a three-way categorisation of affixes. They group both the superlative suffix {-$^{\text{L}}$(e)st}, {-$^{\text{L}}$sel} and the definite articles {-$^{\text{L}}$en}, {-$^{\text{L}}$et} as L-inducing affixes.[26] However, these suffixes differ as we intend to show.

All stems + {-(e)st} or {-sel} have Accent 1, yet, only monosyllabic stems and polysyllabic Accent-1 words have Accent 1 in the definite singular, e.g. '*hus-et*$_{\mathbf{1}}$ 'house/the', '*bok-en*$_{\mathbf{1}}$ 'book/the', '*villa-en*$_{\mathbf{1}}$ 'villa/the', '*sirkus-et*$_{\mathbf{1}}$ 'circus/the' vs. Accent-2 words '*veske-n*$_{\mathbf{2}}$ 'purse/the', '*dame-n*$_{\mathbf{2}}$ 'lady/the', '*kjærlighet-en*$_{\mathbf{2}}$ 'affection/the'. Words in the definite pattern just like words

26. Halvorsen (1976/1983) had originally classified the definite articles as neutral.

with the neutral derivational suffix {-het}, even when added to {-het} derivations, as can be seen below in (23).

(23) Words with {-het} in the indefinite and definite

Isolated word	Gloss	+ {-het}	Gloss	+ definite article
bitter$_{1}$	*bitter*	bitterhet$_{1}$	*bitterness*	bitterheten$_{1}$
fin$_{1}$	*fine*	finhet$_{1}$	*refinement*	finheten$_{1}$
stor$_{1}$	*big*	storhet$_{1}$	*greatness*	storheten$_{1}$
lumpen$_{2}$	*mean*	lumpenhet$_{2}$	*meanness*	lumpenheten$_{2}$
kjærlig$_{2}$	*dear*	kjærlighet$_{2}$	*affection*	kjærligheten$_{2}$

Is the definite article really tone-inducing, as Withgott & Halvorsen claim, or is it perhaps neutral like {-het}? We see here in (23) and with the examples in the preceding paragraph that whatever tone a word has in isolation, the definite article attaches and does not change this tone – just like {-het}. It appears as if Withgott & Halvorsen (1984, 1988) are missing a fundamental property of definite articles that distinguishes them from other inflectional suffixes. Haugen (1967) saw them as being "[l]ess intimately fused with the stem than the plural suffix" (Haugen 1967:194). However, we will just mention the discrepancy of Withgott & Halvorsen's (1984, 1988) neutral suffixes here and come back to a comprehensive discussion of definite articles in our analysis of definite articles in Chapter 3, section 2.1.1.

The complexity of Withgott & Halvorsen's (1984, 1988) analysis, as we have seen thus far for simplex and complex words, resides in the fact that none of the tones are genuine default tones. If you have a privative opposition, we believe that you can do without different degrees of dominance. The specified tone by definition should always dominate. Withgott & Halvorsen also fail to let lexical phonology actually work for them. Lexical phonology should tell you in which order the different classes of affixes attach and consequently when accent changes or is assigned anew. We will discuss this in more detail in our analysis in Chapter 4.

All and all, Withgott & Halvorsen's (1984, 1988) approach is extremely complicated, despite the fact that they only go through a handful of derivational and inflectional affixes and do not always provide all the facts as we saw with the Accent-1 {-lig} derivation '*ordentlig*$_{1}$ 'orderly' in (9a), which leaves many questions open. One of the main problems creating the complications is the L-inducing or Accent-1 morphemes. Withgott & Halvorsen realise the need to specify Accent 1 in derived forms. However, a fundamentally privative analysis, in

which Accent 2 is lexically specified, will always be unnecessarily complicated as we will see in the following sections describing more lexical Accent-2 approaches and when we return to Withgott & Halvorsen (1984, 1988) in our discussion of compounds in Chapter 4.

2.2. Kristoffersen (2000)

The second morphophonological theory we consider is Kristoffersen (2000). In his comprehensive book covering all facets of Norwegian phonology, Kristoffersen (2000) discusses many aspects of accent assignment that are missing in Withgott & Halvorsen (1984, 1988). Precisely because he considers accent assignment in its entirety and also assumes a privative tonal opposition, is he able to render an analysis that is less convoluted than the one proposed by Withgott & Halvorsen (1984, 1988). Although both approaches analyse the same dialect, and assume that Accent 2 is lexically specified, Kristoffersen's (2000) analysis gets by without a multi-tonal classification of the affixes. In his analysis, it suffices to specify stems and morphemes for bearing a high tone (Accent 2), or no tone at all (Accent 1). This means a tremendous simplification for accent assignment.

According to Kristoffersen (2000), underlying forms of simplex words can be specified for bearing a floating H tone, as can affixes. All tonally unspecified syllables with primary stress receive a prominence L tone, i.e., default Accent 1, just like in Withgott & Halvorsen's analysis.

Kristoffersen (2000) attempts to account for the distribution of accent by first examining the phonological make up and stress pattern of words. He argues, for example, that words ending in a vowel can be categorised into those ending in a schwa, the majority of which have Accent 2, and those ending in any other vowel. In section 1, we already saw a few examples of the tonal behaviour of words ending in schwa. In (2c) we saw that non-Germanic prefixes were found in Accent-2 derivations almost exclusively when the syllable following stress ended in a schwa (e.g. '*erkefiende*$_2$, 'archenemy', '*visepresident*$_2$ 'vice-president', *hypo*'*fyse*$_2$ 'pituitary gland', *syn*'*tese*$_2$ 'synthesis'). As to words ending in any other vowel, Kristoffersen (2000) argues that these generally have Accent 1. Words ending in vowel plus consonant are not as easily classified but he makes an attempt at this as well. Kristoffersen's (2000) phonological classification into different accent groups could also be seen as an exercise in dividing up the

vocabulary into native vs. foreign words. The more native sounding a word is – and schwa is a very popular phoneme to end a word in East Norwegian – the more chance it will have of having Accent 2. Words ending in other vowels, the majority of which take Accent 1, are most likely foreign, and most analyses of accent distribution in Scandinavian mention the fact that foreign words usually have Accent 1. We will discuss loans and words ending in schwa in more detail in Chapter 5.

After examining the inventory of Accent-2 words and determining that words and morphemes may only be lexically specified for Accent 2, i.e., for having an inherent floating H, Kristoffersen (2000) endeavours to capture these generalisations and the way that morphemes and stems tonally interact. He does this with three constraints that we discuss in the following sections.

2.2.1. Constraints on the tonal foot

Kristoffersen's (2000) analysis of monomorphemic words is, first of all, based on the rules for accent assignment given in (24).

(24) Accent assignment rules for monomorphemic words

If a word contains a floating H, this H may only attach to the head of a tonal foot.

A tonal foot must consist of a syllabic trochee that only can occur at the edge of a prosodic word.

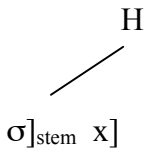
Kristoffersen (2000) posits that the floating H of a stem, will only link up to a lexically stressed syllable and result in Accent 2 when a tonal foot is available. For Kristoffersen, a tonal foot bears main stress and is the only foot in a word to which a lexical H can attach. This tonal foot has restrictions as to its location (edge of a prosodic word) and make up – it must be a syllabic trochee, which is why Accent 2 does not occur in monosyllables or words with final stress. A first fundamental point of divergence from Withgott & Halvorsen (1984, 1988) is that in Kristoffersen's analysis, monosyllabic stems cannot be specified for bearing an inherent H. He has a different solution for monosyllabic stems that cause Accent 2, as for example in the present tense and compounds as we will see in section 2.2.5 and in Chapter 4.

Kristoffersen's second restriction in (24) is that tonal feet only occur at the edge of prosodic words. This limits Accent 2 to words with primary stress (trochee at the left edge) and penultimate stress (trochee at right edge). To account for accent assignment of complex words

containing H-bearing suffixes, he needs more restrictions starting with the Locality Constraint, which we discuss below in 2.2.2.

2.2.2. Locality Constraint

(25) Accent assignment and affixation: Locality Constraint (Kristoffersen 2000:259)
A floating H only attaches to the final syllable of the stem



With this constraint Kristoffersen (2000) intends to capture the generalisation that the floating H of a suffix (here x^{H}]) can only determine the tone when attaching to monosyllables. It will not determine the tone of a polysyllabic word as we see below with the plural suffix {-r^{H}}. Thus, the function of Kristoffersen's (2000) Locality Constraint, which is analogous to Rischel (1963/1983:270) and Haugen (1967/1983:299) for Norwegian and Riad (2003b:4) for Swedish, is to account for the fact that only monosyllabic nouns change tone with the addition of a plural suffix. In polysyllabic singular nouns, the tonal properties of the stem take precedence. The Locality Constraint confines the range of the lexical H of a suffix to the preceding syllable. Thus, the H of the suffix "[c]an only associate with the final syllable of the stem" (Kristoffersen 2000:258), if it is stressed. Recall that Withgott & Halvorsen employed different lexical levels to achieve this same effect.

(26) Example of accent assignment and indefinite plural

	Stem		+ suffix	Accent assignment[27]	Gloss
	mono-	polysyllabic			
a.	bil +		r^{H} >	'biler$_2$	*cars*
b.	gutt +		r^{H} >	'gutter$_2$	*boys*
c.		^{H}'dekke$_2$ +	r^{H} >	'dekker$_2$	*covers*
d.		'villa$_1$ +	r^{H} >	'villaer$_1$	*villas*
e.		pi'lot$_1$ +	r^{H} >	pi'loter$_1$	*pilots*

[27] The plural suffix on the surface either has an epenthetic vowel or a syllabic *-r*. Most importantly a disyllabic trochee is available to accent assignment.

In (26a,b), we see that the floating H of the plural suffix is able to link to the main stress of the monosyllables, resulting in Accent-2 plural forms, i.e., '*biler*$_{\mathbf{2}}$ 'cars', '*gutter*$_{\mathbf{2}}$ 'boys'. In (26c), Kristoffersen maintains that the floating H of the suffix does not attach to the main stressed syllable, because of the Locality Constraint. The last syllable of the stem does not bear main stress, thus the floating H is left stranded. The stem *dekke*$_{\mathbf{2}}$ 'cover', however, has Accent 2 itself, telling us that it must have an inherent floating H that is already linked to the main stressed syllable of the stem. Therefore, it is difficult to see the Locality Constraint at work in (26c). However, (26d) is a polysyllabic Accent-1 singular noun '*villa*$_{\mathbf{1}}$ 'villa' and it remains Accent 1 in the plural, i.e.,'*villaer*$_{\mathbf{1}}$ 'villas'. Kristoffersen (2000) would argue that this Accent-1 plural is also the result of the Locality Constraint. The H of the plural suffix is stranded because the main stress is too far away. However, how can we then explain the polysyllabic form in (26e)? Here, the stressed syllable is the final syllable of the stem and the addition of the plural suffix provides a syllabic trochee, aligned to the right edge. The floating H should be able to dock onto the main stress here since it is adjacent. Kristoffersen's (2000) analysis now requires a constraint to account for the fact that the H of the plural suffix {-r$^{\mathbf{H}}$} does not determine the tone in words like *pi*'*loter*$_{\mathbf{1}}$ which we discuss in the next section.

2.2.3. Tonal-Foot-Left Constraint

Kristoffersen's Tonal-Foot-Left constraint captures the generalisation that the H of the plural suffix cannot link up to words with final stress like *pi*'*lot*$_{\mathbf{1}}$ 'pilot'.

(27) Accent assignment and affixation: Tonal-Foot-Left Constraint (Kristoffersen 2000:260)

- The head of a tonal foot built by a morphological rule has to be aligned to the left edge of the prosodic word

We just saw in (26) that only monosyllables can receive Accent 2 from an accented suffix. Thus, in addition to the Locality Constraint, which makes sure that the accented suffix is directly adjacent to the main stressed syllable, the Tonal-Foot-Left constraint requires main stress to align to the left edge for it to be available to a floating H as we illustrate below.

(28) Tonal-Foot-Left Constraint at work with monosyllables

Stem + suffix	Locality Constraint	Tonal Foot Left	Accent assignment
x $[(x)]_{\omega}$ σ + x^{H}	H σ]$_{stem}$ x]	H x [[x x]$_{TF}$]$_{\omega}$	
x bil + r^{H}	bil]$_{stem}$ r^{H}]	[[$^{H'}$bil r]$_{TF}$] $_{\omega}$	
	can apply	**can apply**	'biler$_2$

As the second and third columns in (28) show, the monosyllabic '*bil* + *r*^{H} meets the Locality Constraint, since the stressed syllable directly precedes the accented plural suffix {-r^{H}}. It also fulfils the constraint restricting the head of a tonal foot to the left edge of a word, thus the output is an Accent-2 plural, i.e., '*biler*$_2$ 'cars'. The disyllabic *pi*'*lot* 'pilot' however, should be prevented from getting Accent 2 as is illustrated in the following.

(29) Tonal-Foot-Left Constraint at work with polysyllables with final stress

Stem + suffix	Locality constraint	Tonal Foot Left	Accent assignment
x $[(x\ x)]_{\omega}$ σ σ + x^{H}	H σ]$_{stem}$ x]	H x [[x x]$_{TF}$]$_{\omega}$	
x pi lot + er^{H}	x pi lot]$_{stem}$ er^{H}]	[pi ['lot er]$_{TF}$] $_{\omega}$	
	can apply	**does not apply**	pi'loter$_1$

In the second column of (29), the plural suffix and *pi*'*lot* meet the Locality Constraint since stress falls on the syllable preceding the suffix. However, the tonal foot is not aligned with the left edge of the prosodic word, as we can see in the third column, and thus, the floating H of the plural cannot link to the stressed syllable, giving us an Accent-1 plural, i.e., *pi*'*loter*$_1$ 'pilots' in the fourth column. In combination with the Locality Constraint, the only words that now can receive Accent 2 from a suffix are monosyllabic stems.

2.2.4. Exceptions

Not all tone bearing morphemes, however, adhere to both constraints. There are two H-bearing suffixes that defy the Locality Constraint because they also determine the accent of polysyllabic and or polymorphemic forms. Namely, the derivational suffix {-lig} and adjectival agreement marker {-e}. Kristoffersen (2000:260f) observes that unlike all other tone-bearing suffixes, regardless of whether unstressed syllables lie between {-lig^{H}} or the adjectival agreement marker {-e^{H}} and the main stressed syllable defying the Locality Constraint, if the main stressed syllable is initial, both suffixes can link their floating H to it. Therefore, these suffixes will have to be specified for adhering to the Tonal-Foot-Left Constraint but not to the Locality Constraint. However, the tone of these suffixes does not always find its way to the main stressed syllable. One additional condition has to be met for {-e^{H}} to induce Accent 2. The adjectival agreement marker can only induce Accent 2 if Accent 2 was present before the addition of the suffix preceding it, in this case the superlative suffix. Therefore, it will not induce Accent 2 in a word like '*vesentlig*$_{1}$ 'important' ('*vesentligste*$_{1}$ 'most important'$_{[agreement]}$) but will in '*hederlig*$_{2}$, '*hederligst*$_{1}$, '*hederligste*$_{2}$ as illustrated below.

(30) Derivation of '*hederligste*$_{2}$ 'most honest' (Kristoffersen 2000:261)

	Stem	Stem + affix	Association of H	Accent assignment	Gloss
a.	hedr̩$_{1}$	hedr̩ + lig^{H} >	^{H}'hedr̩lig	'hederlig$_{2}$	*honest*
b.	^{H}hederlig	^{H}hederlig + st^{L} >	^{L}'hederligst	'hederligst$_{1}$	*most honest*
c.	^{L}hederligst	^{L}hederligst+ e^{H} >	^{H}'hederligste	'hederligste$_{2}$	*most honest*$_{[agreement]}$

The example in (30a) shows that the floating H of {-lig^{H}} can attach to the main stressed syllable despite the violation of the Locality Constraint by the intervening syllabic /r̩/. The floating H of {-e^{H}} in (30c) is not hindered by the Locality Constraint either and induces Accent 2 on the whole derivation. Kristoffersen explains the Accent-1 form '*hederligst*$_{1}$ in (30b) by asserting that the superlative suffix {-st} is an accent-deleting suffix that annuls the floating H of {-lig^{H}} producing the Accent 1 of '*hederligst*$_{1}$ 'most honest'. He lists only two accent-deleting suffixes: the superlative {-st} and the derivational suffix {-isk}. However, he notes that neither are exceptionlessly accent-deleting. There are also cases of {-isk} and Accent-2 forms (e.g. '*nordisk*$_{2}$ 'Nordic'; '*jordisk*$_{2}$ 'earthly'; '*samisk*$_{2}$ 'sami'; cf. Kristoffersen

2000:262). Words without Accent 2 before the addition of the accent-deleting suffixes {-sk} or {-isk}, such as *fanta'si*$_1$, 'fantasy', *fan'tastisk*$_1$ 'fantastic', *sosia'list*$_1$ 'socialist', *sosia'listisk*$_1$ 'socialistic', all have Accent 1 and the adjectival agreement marker {-e^H} cannot change the **default** accent of these words (e.g. *fan'tastiske*$_1$, *sosia'listiske*$_1$).

2.2.5. Accent assignment and prefixes

Kristoffersen's (2000) analysis as we have presented thus far, needs only three constraints to account for most simplex and suffixed forms: the tonal foot must be a disyllabic trochee, which has to be aligned to the left edge of a prosodic word (Tonal-Foot-Left Constraint) and a floating H from a stem can only attach to the final syllable of the stem (Locality Constraint).

The Tonal-Foot-Left Constraint will also account for Accent 1 in forms that Withgott & Halvorsen (1984, 1988) do not address, i.e., Kristoffersen (2000) provides an analysis of infinitive verbs with unstressed prefixes and with the verbal suffix {-er(e)}. He shows that his Tonal-Foot-Left Constraint is also capable of blocking Accent 2 of the infinitive suffix {-e^H} from applying to these verbs as shown in the following.

(31) Accent-2 inducing infinitive suffix and verbs without initial stress

	Affixed stem + infinitive suffix		Accent 1	Gloss
a.	be'tal + e^H	>	be'tale$_1$	*to pay*
b.	for'klar + e^H	>	for'klare$_1$	*to explain*
c.	balan'ser + e^H	>	balan'sere$_1$	*to balance*
d.	fun'ger + e^H	>	fun'gere$_1$	*to function*

The floating H of the infinitive suffix is prevented from attaching to the main stress in all examples in (31), since the tonal foot is not aligned with the left edge of any of these verbs. No more has to be said. However, one set of prefixes is left to deal with – the stressed prefixes.

As you will recall from the data presented in (1c) and the discussion in section 2.1.3, East Norwegian has stressed prefixes that appear in Accent-2 nominal derivations, and Accent-1 verbal derivations. Kristoffersen (2000) classifies these stressed prefixes as particle verbs or particle compounds, since the first constituents are either adverbs or prepositions, which can also be found as free forms. Yet, these compounds deviate from other compounds with monosyllabic constituents because one and the same first constituent will show up in an

Accent-1 compound when the compound is verbal, and in an Accent-2 compound when the compound is nominal as can be seen in the following examples.

(32) Particle compounds: Verbal vs. nominal (Kristoffersen 2000:267)

Accent 1	Gloss	Accent 2	Gloss
'omtale$_{\mathbf{1}}$	*to discuss*	'omtale$_{\mathbf{2}}$	*report*
'anklage$_{\mathbf{1}}$	*to accuse*	'anklage$_{\mathbf{2}}$	*accusation*

In our discussion of compounds in Chapter 4, we will see that the head of a compound (i.e., the final constituent) never determines the tone of the entire compound, it is always the first constituent that determines the accent in compounds. In Kristoffersen's analysis of compound accent assignment, as we will also see in Chapter 4, it is also the first constituent that determines the accent of all compounds – except in this one set of particle compounds. In particle compounds, he posits that the word class of the head, i.e., the second constituent of the compound, determines the accent. If the head is a verb, the outcome is Accent 1 and if it is a noun, Accent 2. The reason for the difference in accent of these particles Kristoffersen (2000:268) sees as a result of earlier stress patterns, where verbs had unstressed prefixes and thus Accent 1, and nouns stressed prefixes.

2.2.6. Consequences and conclusions

Up to now, we have seen two main differences between Kristoffersen (2000) and Withgott & Halvorsen (1984, 1988). First of all, Kristoffersen's (2000) approach is strictly privative and secondly, while Withgott & Halvorsen (1984, 1988) explain the varying forms by assigning processes to different lexical levels among other things, Kristoffersen (2000) accounts for them with three constraints. A further difference is how these analyses deal with not only the Accent-2 plurals, but also the umlauted Accent-1 plurals. As we noted in section 1.3, umlauted plurals take Accent 1. Kristoffersen's explanation for the differing accents is that the plural suffix has two allomorphs: one that is accented, i.e., the more general plural marker {-r$^{\mathbf{H}}$}, and one that bears no tone, i.e., the umlauted plural marker {-r}. Whether a plural form has Accent 1 or 2 depends on the suffix they take. The nouns would then have to be specified for taking one or the other accent and supposedly also for umlaut.

Kristoffersen (2000) also elegantly solves Withgott & Halvorsen's (1984, 1988) problem of the homophonous present tense suffix *-er* in a similar way. He posits that there are two different suffixes here as well, i.e., an unaccented and an accented allomorph {-r} and {-r^{H}}. Recall that Withgott & Halvorsen (1984, 1988) saw the difference in accent of the present tense as inherent to the stems, not the suffix. This assumption is very plausible if looked at diachronically, since the verbs that have Accent 1 or Accent 2 in the present tense today also belonged to different classes in ON. ON had two classes of verbs with monosyllabic present tense forms. These were the class of the strong ablaut verbs and one class of weak verbs – which have Accent 1 today. All other verbs had disyllabic present tense forms and Accent 2 in Modern East Norwegian. Nevertheless, this does not imply that in synchronic East Norwegian grammar the difference still lies in the stems, as we argue in our analysis of the present tense in Chapter 3, section 2.2.2.

This concludes our summary of Kristoffersen's (2000) approach to simplex and complex words. We will return to Kristoffersen's analysis when we consider compound accent assignment in Chapter 4.

2.3. Riad (1998a,b, 2003)

Since the ultimate goal of our approach is to account for accent assignment in any Scandinavian tonal dialect, we also take into consideration the prevailing phonological analysis of Central Swedish proposed in Riad (1998a) and further developed and equipped with more examples in Riad (1998b, 2003b, 2005).[28] Accent assignment in Central Swedish is very similar to East Norwegian, the major difference being that all compounds and compound-like derivations, i.e., words consisting of 2 prosodic words, have Accent 2, as we will discuss in more detail in Chapter 5.

As to the analysis of non-compound words, Riad (1998) posits that tone in Central Swedish is privative in concurrence with many previous analyses of Swedish (e.g. Elert 1972 and others) and of East Norwegian (e.g. Kristoffersen 2000, Abrahamsen 2003, Gussenhoven 2004). Riad (1998) maintains that Accent 2 represents the marked member and Accent 1 is the

28. We will now refer to Riad's approach here after as Riad (1998) unless referring to a particular text.

default or just plain stress. As we see below in (33), Accent 2 in Central Swedish has in principle the same tonal pattern as Accent 1. The only difference is that Accent 2 has an additional H at the beginning of the tone sequence. Riad (1998) designates this extra H as the lexical tone, which docks onto primary stress, displacing the remainder of the tonal contour to the right.

(33) Tonal pattern for Stockholm Swedish (Riad 2003b:1) [29]

Accent 1	Gloss	Accent 2	Gloss
b a n d y |	*bandy*	s o m m a r |	*summer*
L*H L		H* LH L	

In Riad's (2003b) analysis of accent assignment in Central Swedish, Accent 2 can result from two processes. First, Accent 2 can be **prosodically** induced by the addition of a stressed morpheme creating a word with two stresses, as in compounds and many derivations. He asserts that stress in Central Swedish is manifested with a H. "H is presumably the default phonetic pitch correlate for stress, cross-linguistically" (Riad 1998a:73). A word with two stresses thus will have two H tones, which Riad (1998) contends yields post-lexical Accent 2. If the two H tones instigate a stress clash, resolution of this stress clash results in the reduction of the non-primary stress, yet, both H tones still remain. This is also part of his explanation for how Accent 2 originated diachronically (cf. Riad 1998a). Below in (34), we list a few examples of prosodically induced Accent 2.

(34) Prosodically induced Accent 2 (Riad 2003b:4) [30]

	Stem + suffixes		Two stresses/ two H tones	Post lexical accent assignment	Gloss
a.	'klok+ˌskap	>	^{H}'klok ^{H}ˌskap	'klokˌskap$_2$	*wisdom*
b.	'bär+ˌbar	>	^{H}'bär ^{H}ˌbar	'bärˌbar$_2$	*portable*
c.	'komp-is+ˌskap	>	^{H}'kompis ^{H}ˌskap	'kompisˌskap$_2$	*friendship*

29. An asterisk designates the tone linked to the primary stressed syllable.

30. Secondary stress is noted before the respective syllable using the subcased stress mark, as in the second syllable of *'klokˌskap$_2$* 'friendship' in (34a).

In (34a-c), the derivational suffixes {-ˌskap}, {-ˌbar} do not bear lexical tone. Nevertheless, they bear stress, which also results in Accent 2.[31] Words with Accent 2 in Central Swedish consist of two H tones, i.e., two tonal peaks, thus words with two stresses also have two H tones and consequently Accent 2. One of Riad's (1996, 1998a) most controversial hypotheses is that these kinds of dialects, in which all words containing two stresses have Accent 2 – regardless of their morphological make up, are more archaic.[32] He regards Southern Swedish dialects, such as the Malmö dialect as well as East Norwegian dialects, as being the more modern variety, i.e., the innovation, since they have both Accent-1 and Accent-2 compounds. Thus, compounds such as '*banan*ˌ*palm* 'banana palm' and '*taxi*ˌ*kund* 'taxi customer', are Accent 1 in these dialects, whereby in Central Swedish they would be Accent 2 since they contain two stresses. We will discuss the consequences of this assumption in more detail in Chapter 4 and Chapter 5 when we discuss compounds.

Besides being the product of two stresses, Accent 2 can also be **lexically** induced by tone-bearing morphemes. Riad (1998) posits that polysyllabic stems and syllabic morphemes may be specified for bearing a H tone or lexical Accent 2. The following are examples of Accent-2 bearing roots.

(35) Tone-bearing root morphemes (Riad 2003b:3)[33]

Root	Accent assignment	Gloss
'senap^2 >	'senap$_{\mathbf{2}}$	*mustard*
'sommar^2 >	'sommar$_{\mathbf{2}}$,	*summer*

Like Kristoffersen (2000), Riad (2003b) also observes certain phonological tendencies of Accent-2 words in Swedish. For example, disyllabic words ending in *-e* or *-a* usually have Accent 2. The Accent 2 of these words, as he posits, originates from the tonal stem desinences, as we see in (36).

31. When Riad is referring to stressed derivational suffix, he ultimately is speaking of secondary stress.
32. For an in-depth discussion of Riad's (1998a) theory the reader is referred to Bye (2004).
33. Riad (2003b) signifies Accent-2 bearing morphemes with a superscript 2.

(36) Tone-inducing stem desinences -e^2 ,-a^2 (Riad 2003b:3)

Root + stem desinence	Tone association	Accent assignment	Gloss
'gubb + e^2	^{2}'gubbe	'gubbe$_2$	*geezer*
'gat + a^2	^{2}'gata	'gata$_2$	*street*

Riad (2003b) classifies the -*e* and -*a* stem desinences in these words as Accent-2 inducing suffixes along with the inflectional and derivational suffixes listed below in (37). Riad (2003b) would most probably assume that words ending in -*e* or -*a* that do not bear Accent 2, are not made up of tone-bearing stem desinences. However these words are more or less non-existent in Swedish. By calling these vowels "stem desinences", he circumvents assigning lexical tone to words ending in a particular vowel as Kristoffersen (2000) essentially does. It is interesting to note that Riad's (2003b) approach in essence must lexically specify nouns, ending in the most common word-final vowel, along with the following inflections just like Kristoffersen (2000).

(37) Tone-inducing affixes: Inflection (Riad 2003b:2f)

	Type of inflection	Suffix	Stem + suffix	Accent assignment	Gloss
a.	INFINITIVE	-a^2	'tvätt- + a^2	'tvätta$_2$	*to wash*
b.	PLURAL	-Vr^2(-ar^2/-or^2/-er^2)	'båt- + ar^2	'båtar$_2$	*boats*
c.	PAST PERFECT	-it^2	'sprung- + it^2	'sprungit$_2$	*(has) run*
d.	COMPARATIVE	-are^2	'glad- + are^2	'gladare$_2$	*happier*
e.	SUPERLATIVE	-ast^2	'glad- + ast^2	'gladast$_2$	*happiest*

In (37), we list all Accent-2 inducing inflectional suffixes mentioned in Riad (2003b). The fact that the majority of infinitive verbs in Swedish have Accent 2 also led Riad (1998a) to specify the infinitive suffix for having accent-inducing powers. Yet, as we also saw for Norwegian, an Accent-2 approach inevitably runs into problems as soon as a derivational prefix is added. For Central Swedish, interestingly enough, these problems only involve unstressed prefixes since stressed prefixes fall into the two-stress compound-like category. We, thus, address the issue of stressed affixes a bit later in our discussion of Swedish derivational affixes.

As can be seen in (37b), the Swedish plural suffix behaves much like its Norwegian counterpart. It also brings about Accent 2 when added to monosyllabic stems like *båt* 'boat',

i.e., '*båtar*$_{\mathbf{2}}$ 'boats', and does not affect the accent when added to polysyllabic stems. In fact, almost all syllabic inflections behave in this manner. Haugen (1967/1983:193) observes for Norwegian that the only inflections, which do not induce Accent 2, are the definite article, umlauting inflections and the uninflected superlative. In central Swedish, the infinitive suffix {-a}, the past perfect suffix {-it}, the comparative suffix {-are}, and the superlative suffix {-ast} all bring about Accent-2 when added to monosyllabic stems. Riad (2003b) consequently categorises these syllabic inflections – or more precisely – all inflections that consist of at least one syllable – as tone-bearing suffixes, e.g. {-a^2}, {-it^2}, {-are^2}, {-ast^2}.

The next step is to find a generalisation to account for accent assignment in polysyllabic stems as, for example, the plural of loanwords like '*kaktus*$_{\mathbf{1}}$ 'cacti', i.e., '*kaktusar*$_{\mathbf{1}}$. Here Riad (2003b) introduces his version of a Locality Constraint to prevent the Accent 2 of the plural suffix from linking to the main stressed syllable, which would result in an incorrect Accent 2.

2.3.1. Locality Constraint

(38) Locality Constraint according to Riad (2003b:4) [34]

- Lexical accent 2 information can only be assigned from an inflection if it is immediately adjacent to stress.

This constraint will leave the Accent 2 of some suffixes stranded, since they are not directly adjacent to the main stressed syllable, as shown below.

(39) The Locality Constraint in action

a. Monosyllabic stems: 'σ + ar^2 > Accent 2

Stem + suffix	Tone association	Accent assignment	Gloss
'båt + ar^2	^{2}'båtar	'båtar$_{\mathbf{2}}$	*boats*

b. Polysyllabic stems, non-tone-bearing: 'σ σ + ar^2 > Accent 1

Stem + suffix	Tone association	Accent assignment	Gloss
'kaktus + ar^2	'kaktusar	'kaktusar$_{\mathbf{1}}$	*cacti*

c. Polysyllabic stems, tone-bearing: ^{2}'σ σ + ar^2 > Accent 2

Stem + suffix	Tone association	Accent assignment	Gloss
^{2}'sommar + ar^2	^{2}'somrar	'somrar$_{\mathbf{2}}$	*summers*

34. Although Riad (2003b:4) wrote "inflection" here, this constraint also applies to derivations, as can be implied by his example for this constraint *part-isk-het*, i.e., '*partiskhet*$_{\mathbf{1}}$ 'partialness' (Riad, p.c.).

As we can see from these examples, the Locality Constraint allows the plural suffix to determine the tone with monosyllabic stems (39a) '*båtar*$_{\mathbf{2}}$ ‘boats’, since it is directly adjacent to the main stressed syllable. It also successfully prevents the Accent 2 of the plural suffix from having any effect on the polysyllabic stems. In (39b,c), the Accent 2 of the plural suffix is not contingent to main stress and thus is stranded, and cannot cause an incorrect Accent-2 plural in '*kaktusar*$_{\mathbf{1}}$ ‘cacti’ from the singular '*kaktus*$_{\mathbf{1}}$ ‘cactus’. It also does not affect the plural of the polysyllable '*sommar*$_{\mathbf{2}}$ ‘summer’, because its stem is specified for Accent-2, and thus the plural is Accent 2 '*somrar*$_{\mathbf{2}}$ ‘summers’, which does not necessarily get its accent from the plural suffix. However, the Locality Constraint cannot prevent the wrong prediction in polysyllabic words with final stress like *pi'lot* ‘pilot’, as we saw in Norwegian (cf. (26)). Words with final stress are mostly loans and have persistently Accent 1 in the plural (*pi'loter*$_{\mathbf{1}}$ ‘pilots’), as well as in the singular (*pi'lot*$_{\mathbf{1}}$ ‘pilot’). For Riad (2003b), these words take a different plural suffix that does not bear tone and is does not make up a syllable, e.g. {-r}. Therefore, his analysis does not need a constraint restricting the tonal foot to the left edge. However, it does for another set of words, which we will discuss after first introducing the derivational suffixes in the next section.

2.3.2. Accent assignment and derivational suffixes

In Riad's approach, affixes, like stems, can only be specified for inducing Accent 2, examples of which are given below.

(40) Tone inducing affixes: Derivation (Riad 2003b:2f)

Suffix	Stem +suffix	Accent assignment	Gloss
-are^{2}	'klock + are^{2}	'klockare$_{\mathbf{2}}$	*bell ringer*
-ing^{2}	'räkn + ing^{2}	'räkning$_{\mathbf{2}}$	*invoice*
-ad^{2}	'mån + ad^{2}	'månad$_{\mathbf{2}}$	*month*
-else^{2}	'rör + else^{2}	'rörelse$_{\mathbf{2}}$	*movement*
-lig^{2}	'van + lig^{2}	'vanlig$_{\mathbf{2}}$	*common*
-ˌhet^{2}	'öm + ˌhet^{2}	'ömˌhet$_{\mathbf{2}}$	*tenderness*

According to Riad’s examples in (40), it appears as if only derivational suffixes can bear tone in Central Swedish, since his list does not contain any prefixes. He contends that these suffixes are accent-inducing, as they produce Accent-2 forms when added to monosyllabic stems. The Accent-2 forms they produce cannot be prosodically induced, since only the last

suffix {-ˌhet} is stressed. Riad (2003b) maintains that {-ˌhet} is not only stressed but also lexically tone-inducing, i.e., {-ˌhet^2}. Recall that in Norwegian, {-het} does not change the accent of a word, and thus has been analysed by Withgott & Halvorsen as carrying no tone ('*ømhet*$_1$ 'tenderness). We will examine why Riad (2003b) claims that {-ˌhet^2} needs to be additionally specified for lexical tone in Central Swedish below in (41), i.e., see how it differs from other stressed suffixes like {-ˌbar}, {-ˌskap} that are not lexically marked. However, let us first address the tone-inducing properties of the derivational suffixes in (40). Once again, we have a group of suffixes {-are^2}, {-ing^2}, {-ad^2}, {-else^2}, {-lig^2}, {-ˌhet^2} that all produce Accent-2 derivations when added to monosyllabic stems, just like the tonally marked inflections in (37). Yet, once again, as in Withgott & Halvorsen's (1984, 1988) and Kristoffersen's (2000) analyses, the question arises as to which morpheme ultimately determines the accent in forms comprised of more than one morpheme, as in {möj}{lig^2}{het^2} 'possibility'. Or when tonal suffixes attach to monomorphemic or bimorphemic stems that have penultimate stress, such as {be}{tal}+{a^2} 'to pay', as we discuss below. Will these tonal suffixes always determine the accent?

(41) Polymorphemic derivations

	Stem + affix(es)	Tone association	Accent assignment	Gloss
a.	möj + lig^2 + ˌhet^2	^{2}'möjligˌhet	'möjligˌhet$_2$	*possibility*
b.	be + tal + a^2	be'tala	be'tala$_1$	*to pay*

In (41a), we have two Accent-2 inducing suffixes {-lig^2} and {-ˌhet^2} and the result is an Accent-2 derivation '*möjligˌhet*$_2$ 'possibility'. Here, the tonal suffix {-lig^2} complies with the Locality Constraint. However, concerning the example *be'tal-a*^{2} 'to pay' in (41b) we have an Accent-2 inducing suffix which is also directly adjacent to stress, yet Accent 1 is the result, namely *be'tala*$_1$. Even though the Locality Constraint is not violated, the lexical accent of the suffix does not succeed in determining the tone. In Riad (1998a), unstressed prefixes such as {be-} and {för-} are labelled as deaccenting affixes because of their ability to annul the lexical tone of these infinitive constructions. Thus, these prefixes must be lexically specified for erasing lexical accent. However, Riad himself must not have been totally satisfied with this solution and puts forth the following Two-Morpheme Constraint in Riad (2003b) to explain what is preventing tonal suffixes from having an influence on the accent of words like *be'tala*$_1$ 'to pay' and *för'bjuda*$_1$ 'to forbid'.

2.3.3. Two-Morpheme Constraint

(42) Two-Morpheme Constraint (Riad 2003b:4)

- Lexical accent 2 information must occur within the first two morphemes of a structure in order to become a property of the whole structure.

This constraint would translate in Kristoffersen's (2000) approach into the Tonal-Foot-Left Constraint for morphologically complex words (cf. (27)). Riad's (2003b) version contends that *möj-lig*^{2}*-ˌhet*^{2} receives Accent 2, i.e., *'möjligˌhet*$_2$ 'possibility', because of the Accent-2 inducing morpheme {-lig^2} in the second syllable. It is within the first two morphemes and it is immediately adjacent to stress. This fulfils both the Locality Constraint and the Two-Morpheme Constraint. Lexical Accent-2 information is directly contiguous to the main stressed syllable, and these two syllables are aligned left, i.e., make up first two syllables of the word. The Two-Morpheme Constraint in (42) will furthermore correctly prevent the tonal properties of {-ing^2} from inducing Accent 2 in forms like *be'räkning*$_1$ 'estimation'. Here, the lexical accent of {-ing^2} is adjacent to stress, but too far from the left edge *be-'räkn-ing*^{2} to link up.

Returning to our question about derivational suffixes that are both stressed and lexically marked, as in a derivation like *'partiskˌhet*$_1$ 'partialness'. In this particular word, the lexical tone of {-ˌhet^2} will not be able to induce Accent 2, since there is a violation of both lexical accent assignment constraints. The tonal morpheme of *'part-isk-'het*^{2} is in the third syllable and is not adjacent to stress – thus both the Locality Constraint and the Two-Morpheme Constraint are violated. The result is the Accent-1 form *'partiskˌhet*$_1$ 'partialness'. These rules which apply to lexically induced accent must in some way also prevent prosodically induced post-lexical Accent 2 from applying, since we have two stresses *'partiskˌhet*$_1$, i.e., as Riad (2003b) infers – two stresses yet no Accent 2. What prevents Accent 2 from being prosodically induced? Is one of the H tones somehow deleted resulting in Accent 1? Perhaps the lexical accent constraints also apply to prosodically induced Accent 2? However, *'komp-is-ˌskap* is a similar derivation which also consists of root + suffix + stressed suffix, yet it has Accent 2, i.e., *'kompisˌskap*$_2$ 'friendship'. The only apparent difference to *'partiskˌhet*$_1$ 'partialness' is that {-ˌskap} is merely stressed while {-ˌhet^2} is both stressed and lexically marked. Let us take a closer look at the differences between tone-bearing and stressed derivational suffixes, and see if the presence of two stresses indeed always implies Accent 2.

(43) Stress-bearing derivational suffixes {-ˌbar}, {-ˌskap} vs. {-ˌhet^2}

	Root + affix	Two stresses/ two H tones	Accent assignment	Gloss
a.	'bär + ˌbar	'bärˌbar	'bärˌbar$_{\mathbf{2}}$	*portable*
b.	'an 'vänd + ˌbar	'an'vändˌbar	'anˌvändˌbar$_{\mathbf{2}}$	*useable*
c.	be'stäm+ ˌbar	be'stämˌbar	be'stämˌbar$_{\mathbf{1/2}}$	*decidable*
d.	da'ter+ ˌbar	da'terˌbar	da'terˌbar$_{\mathbf{1/2}}$	*dateable*
e.	'klok + ˌskap	'klokˌskap	'klokˌskap$_{\mathbf{2}}$	*wisdom*
f.	'komp-is + ˌskap	'kompisˌskap	'kompisˌskap$_{\mathbf{2}}$	*friendship*
g.	be'red + ˌskap	be'redˌskap	be'redˌskap$_{\mathbf{1}}$	*preparedness*
h.	be'kant + ˌskap	be'kantˌskap	be'kantˌskap$_{\mathbf{1/2}}$	*acquaintance*
i.	ri'val + ˌskap	ri'valˌskap	ri'valˌskap$_{\mathbf{2}}$	*rivalry*
j.	'sned + ˌhet^2	'snedˌhet^2	'snedˌhet$_{\mathbf{2}}$	*slantedness*
k.	'part-isk + ˌhet^2	'partiskˌhet^2	'partiskˌhet$_{\mathbf{1}}$	*partialness*
l.	be'märkt + ˌhet^2	be'märktˌhet^2	be'märktˌhet$_{\mathbf{1}}$	*noticeability*
m.	ab'surd + ˌhet^2	ab'surdˌhet^2	ab'surdˌhet$_{\mathbf{2}}$	*absurdness*

As we saw in (34), Riad (2003b) classifies both {-ˌbar} and {-ˌskap} as stressed suffixes that bear no lexical tone. Assuming that words in Central Swedish with two stresses have prosodically induced post-lexical Accent 2, as shown in (34), it follows that any word containing {-ˌbar} or {-ˌskap} should have Accent 2. As the examples in (43) reveal, however, this does not always hold true (cf. (43c,d,g,h). Once again it appears to be the unstressed prefixes and loans, which seem to prefer Accent 1, even though they all contain two stresses. These derivations have the ideal environment for the Two-Morpheme Constraint, which also seems to apply to the derivation made from the loanword *da'tera*$_{\mathbf{1}}$ 'to date' (*da'terˌbar*$_{\mathbf{1/2}}$ 'dateable'), i.e., since it bears Accent 1. According to the *Svenska Akademiens ordbok* (SAOB) [Dictionary of the Swedish Language] these words have Accent 1, however the newer *Nordstedts svenska uttalslexikon* [Nordstedt's Swedish Pronunciation Dictionary] lists them as being pronounced with either Accent 1 or 2 for *be'stämˌbar*$_{\mathbf{1/2}}$ 'decidable', *be'kantˌskap*$_{\mathbf{1/2}}$ 'acquaintance' and *da'terˌbar*$_{\mathbf{1/2}}$ 'dateable'. This flexibility in accent perhaps indicates that a change is taking place – that these words too are increasingly being seen as compounds and increasingly getting Accent 2. Yet, Riad (1998a:87) considers compounds with generalised Accent 2 to be the older stage. The development would have to be in the other direction, i.e., that they are developing from Accent-2 compound-like forms to Accent-1 non-compounds. Perhaps they are developing from merely stressed suffixes to lexically marked suffixes – which

then violate the constraints for lexically induced Accent 2. These are open questions that we will have to leave unanswered here.

A direct comparison of the two stressed derivational suffixes {-ˌbar} and {-ˌskap} with {-ˌhet^2} reveals that Riad's (2003b) constraints for lexical tone appear to apply frequently to {-ˌhet^2} derivations (except for *ab'surdˌhet*$_{\mathbf{2}}$ 'absurdness' where neither apply) and only sporadically to derivations with merely stressed suffixes ({-ˌbar}, {-ˌskap}). As we mentioned before, both the Locality Constraint and the Two-Morpheme Constraint are violated in *'partiskˌhet*$_{\mathbf{1}}$ 'partialness' and in *'kompisˌskap*$_{\mathbf{2}}$ 'friendship', where only the former suffix bears lexical accent ({-ˌhet^2} vs. {-ˌskap}). It is, however, not the lexical tone or stress of {-ˌhet^2} that succeeds in inducing Accent 2 in its derivation, but rather only the stress of {-ˌskap} that indeed does succeed, e.g. *'kompisˌskap*$_{\mathbf{2}}$ although both words have two stresses. These constraints do not consistently have an effect on {-ˌskap} derivations as we can see by where they do apply (43g,h) and where they do not apply in (43f,i). If {-ˌskap} did bear lexical tone like {-ˌhet^2}, (43i) *ri'valˌskap*$_{\mathbf{2}}$ 'rivalry' would defy the Two-Morpheme Constraint, and (43f) *'kompisˌskap*$_{\mathbf{2}}$ 'friendship' would violate both constraints and we would subsequently have two Accent-1 derivations. As for {-ˌbar} derivations and the Two-Morpheme Constraint, sometimes it applies and sometimes it does not, e.g. (43d) *da'terˌbar*$_{\mathbf{1/2}}$ 'dateable' and (43c) *be'stämˌbar*$_{\mathbf{1/2}}$ 'decidable' depending on the accent used with the derivation.

Derivational suffixes that are at the same time stressed and lexically marked seem to be dominated more by their lexical tone-inducing properties than by their prosodic inducing properties. Perhaps all that is missing in Riad's (1998) account is some general constraint preventing derivations that contain lexical tone, which is left stranded on the lexical level, from prosodically receiving tone on the post-lexical level.

2.3.4. Consequences and conclusions

Every approach that assumes Accent 2 as the lexically specified accent will have to mark all nouns that end in the most common vocalic ending – schwa – as well as all syllabic inflections, for bearing lexical Accent 2. Moreover, in Riad's (1998) approach Accent 2 can also be predicted by rule – all words containing a secondary stress apparently should have Accent 2 in Central Swedish, although we can list many Accent-1 words as we just saw with some stressed derivational suffixes. It seems strange to us to have to store these words and inflections in the lexicon – words that are so common – words that follow rules as in "all forms with two stresses have Accent 2". Accent assignment for Central Swedish compounds is less complex than it is in East Norwegian because of the two-stress generalisation. The Central Swedish Accent-2 generalisation for all words consisting of two prosodic words (or, in other words, words with two stresses) eliminates the need for affixes with alternating tone according to syntactic class, as we saw with the stressed prefixes in Norwegian, e.g. $\{^{H}$om-$\}_{NOUN}$, $\{^{L}$om-$\}_{VERB}$; $\{^{H}$på-$\}_{NOUN}$, $\{^{L}$på-$\}_{VERB}$ (cf. (12), (31)). The complicated accent distribution of compounds where monosyllabic stems have Accent 1 in some compounds, and Accent 2 with others, is not an issue either. However, even though accent assignment is less complex in Central Swedish, we claim that a lexical Accent-1 approach provides a more straight-forward analysis for all North Germanic tonal dialects as we attempt to show in the following chapters.

3. Preliminary summary of Accent-2 analyses (derivation)

The following is a table summarising the differences and similarities of the three morphological approaches of Withgott & Halvorsen (1984, 1988), Kristoffersen (2000) and Riad (1998a, 2003b). The table also includes a preview of our lexical Accent-1 analysis that we introduce in the next chapter and a preview of compound accent assignment.

(44) Summary of morphophonological analyses plus preview of our approach

	Withgott & Halvorsen	**Kristoffersen**	**Riad**	**Lexical Accent 1**
Lexical accent: polysyllabic stems	Accent 2	Accent 2	Accent 2	Accent 1
Lexical accent: monosyllabic stems	Accent 2 (for compounds & pres.tense)	Accent 2 (for compound stems)		Accent 1
Lexical accent for: affixes	Accent 1/ Accent 2/ neutral	Accent 2	Accent 2, (Stressed post-lexical A 2))	Accent 1
Constraints	Strong/weak dominance	Locality Constraint	Locality Constraint	
	2 levels of lexical phonology	Tonal-Foot-Left Constraint	Two-Morpheme Constraint	
	Monosyllables: no linked tone	Accent-deleting affixes		

As the table in (44) tries to illustrate, our lexical Accent-1 approach – listed in the last column – is much simpler and requires next to no extra constraints. All approaches must explain that tonal opposition only exists in forms without final stress. However, as we explicate in the following chapters, if Accent 1 is accepted for what it is – the exception, the nonesuch of the two tonal accents, it becomes clear how pertinacious the lexically specified accent can be, and by definition should be. Lexically specified accent should always dominate and if there are exceptions, we expect them to concern the lexically specified accent – because it is not regular, does not follow rules, therefore is lexically specified. This and many other aspects of Accent 1 have eluded scholars pursuing a lexical Accent-2 approach. As we will see in Chapter 5, for example, if there is a case of accent change it will always be from lexically specified Accent 1 to the accent that follows the rules of East Norwegian grammar – Accent 2. It is never the other way around.

CHAPTER 3
A NOVEL APPROACH TO SPECIFY TONE

The following quote from Haugen (1967/1983) contains a significant clue for solving the puzzle of Scandinavian accent, namely the distinction between the 'native' and 'foreign' vocabulary.

> "Any attempt to set up general rules for tone is bedevilled by the fact that Norwegian exhibits at least two clearly distinct prosodic structures: one native, the other foreign; and within the latter, one German and the other Romance-Classical. While all of these are blended together in speech, they require very complex statements in the grammar." (Haugen 1967/1983:198)

One generalisation, to be found in many scholarly works on accent assignment in Scandinavian is that loanwords have Accent 1, even though Accent 1 is exceptionlessly the default accent, i.e., the unmarked case in these analyses. In other words, these analyses assume that language learners need to store in their lexicon parts of the grammar as familiar and abundant as inflections and native words ending in schwa, whereas material coming in from foreign languages supposedly follow the rules of the grammar and receive default accent. This seems very peculiar. After having just worked through three Accent-2 approaches in Chapter 2, we have seen what consequences this assumption has for accent assignment, i.e., how highly complicated an analysis can be if it strives to account for all facets of accent assignment.

In the following, we make a case for a fundamentally different analysis of Scandinavian tonal accent assignment, which has been introduced in Lahiri, Wetterlin & Jönsson-Steiner (2005a, 2005b, 2006) and Wetterlin, Lahiri & Jönsson-Steiner (2007). In our approach, Accent 1 is the special accent, the nonesuch that stands out from the rest and does not follow rules. Accent 2 is the default. Once this essential assumption has been laid down, it is striking how patterns suddenly fall into place.

Using Standard East Norwegian as our starting point, we intend to show how uncomplicated accent assignment can actually be. We begin by introducing the basic tools for our analysis and illustrating their implementation on simple and complex words in this chapter and move on to our analysis of compounds in Chapter 4. Chapter 3 is organised as follows: In section 1, we

introduce our lexical Accent-1 approach. We consider default accent assignment in nouns and exceptional cases, which can be explained by assuming that some morphemes are specified in the lexicon for Accent 1. Section 2 discusses inflectional morphology and accent assignment. We begin with nominal inflections in section 2.1. Here we investigate plural formation and come to the conclusion that there are four plural suffixes: three of which are underlyingly unspecified for Accent, and only one that is specified, i.e., the umlaut plural suffix which has to be specified for umlauting the stem vowel, as well as for inducing Accent 1. In sections 2.1.1-2.1.2, we turn to the definite markers and argue that they are "special", in the sense that they cannot alter accent assignment of their base: i.e., they are added post-lexically after accent assignment. Section 2.2 moves on to verbal inflections and shows why in our approach morphemes such as verbal stems, the infinitival ending *-e*, the present and past tense markers, and the participle ending *-ende* are not lexically specified, whereas the foreign infinitival ending *-er(-e)* is lexically specified for Accent 1. Section 2.3 discusses adjectives and accent assignment, where we show once again that most inflectional endings do not involve lexical specification: only exceptions such as the comparative ending *-re* (which, unlike the regular comparative ending *-ere*, induces umlaut) and the superlative *-(e)st* are specified for Accent 1. Finally, section 3 considers derivational affixes and accent assignment concluding that irregular cases may be elegantly explained if we assume that some of them are specified for assigning Accent 1.

1. Lexical specification and default accent assignment

Our approach to Scandinavian accent assignment is privative: we assert that words and morphemes can only be lexically specified for bearing lexical Accent 1. All other words containing at least one disyllabic trochee receive default Accent 2. Only Accent 1 is lexically specified, therefore, no morpheme or word bears Accent 2 lexically. Accent 2 is the result of a default accent rule.

1.1. Lexical specification of Accent 1

In (1), we list some lexically specified words and affixes in Standard East Norwegian, showing that Accent 1 can be lexically specified on words (1a), suffixes (1b), stress-bearing prefixes (1c), or as 'post-accenting' on unstressed prefixes (1d).

(1) Abstract lexical accent marking in Standard East Norwegian

a. Lexically specified words:

Foreign nouns: *ăksje* 'stock', *v̆illa* 'villa', *tălent* 'talent', *lăvendel* 'lavender', *t̆iger* 'tiger', *p̆ergola* 'arbor', etc.

Names of places: *Bĕrgen*¸ *Lŏndon*, *Hĕllas* 'Greece', *Pŏrtugal*, etc.

Days of the week: *măndag* 'Monday', *frĕdag* 'Friday', *lørdag* 'Saturday', *søn̆ndag* 'Sunday', etc.

Names of berries: *jŏrdbær* 'strawberry', *tÿ̆ttebær* 'cranberry', *brĭ̊ngebær* 'raspberry', *bjørnebær* 'blackberry', etc.

b. Lexically specified suffixes:

{-'ĕr}$_{\text{VERB}}$, {¨-ĕr}$_{\text{PLURAL}}$, {-ĭ̊sk},
{¨-rĕ} $_{\text{COMPARATIVE}}$, {^{x}-st}$_{\text{SUPERLATIVE}}$

c. Lexically specified prefixes:

{'ăn-}, {'ăv-}, {'nĕd-}, {'ŏm-}, {'ŏpp-},
{'p̆å-}, {'t̆il-}, {'ŭnn-}, {'ŭt-}

d. Lexically specified post-accenting prefixes:

{be^{x}-}, {for^{x}- } (less common: {er^{x}-}, {ent^{x}-}, {ge^{x}-})

Following Gussenhoven (1991) for English, and Jasanoff (1966/1983) for Scandinavian, we earmark lexical specification by placing a superscript "x" on the stem or morpheme bearing lexical accent. The placement of the diacritic over a particular segment has no significance other than to show that this morpheme bears lexical specification. For words containing lexically specified affixes, the lexical accent of the affix docks onto the nearest primary stressed syllable, giving the entire complex word Accent 1. Tonal accent only docks onto main stress.

(2) Accent assignment and lexically specified stems

Lexical representation[35]		Stress + accent assignment	Gloss
/v̌illa/	>	'villa$_{\mathbf{1}}$	*villa*
/t̆alent/	>	ta'lent$_{\mathbf{1}}$	*talent*
/l̆avendel/	>	la'vendel$_{\mathbf{1}}$	*lavender*
/t̆iger/	>	'tiger$_{\mathbf{1}}$	*tiger*
/b̆ergen/	>	'bergen$_{\mathbf{1}}$	*Bergen*

These words all have lexically specified stems, which ultimately translate into Accent-1 forms. One trait of lexical accent is that it is very pertinacious and persevering. This will become apparent as we examine accent assignment within the areas of inflectional and derivational morphology by affixation and within compound formation. What follows in (3) is just a small sample of how lexically specified morphemes determine the accent of the whole composition.

(3) Accent assignment and lexically specified prefixes: {b̆e-} and {fo̱r̆-}

Lexical representation	Stress + accent assignment		Gloss
/b̆e//tenk//e/	be't̆enke	> be'tenke$_{\mathbf{1}}$	*to consider*
/fo̱r̆//bedr//e/	for'b̆edre	> for'bedre$_{\mathbf{1}}$	*to improve*

The lexical representations in the first column in (3) shows that these forms are both made up of three morphemes, the first of which is lexically specified, as shown by the diacritics. In the second column, we demonstrate how the lexical accent of these morphemes docks onto the main stressed syllables determining the accent of the output. Our claim that these morphemes are lexically specified is based on the fact that all words with {b̆e-}, {fo̱r̆-} have Accent 1. We will discuss these and other lexically specified prefixes in section 3.1.

Our choice to indicate lexical Accent 1 with a diacritic, as opposed to using a particular tone, as most lexical Accent-2 analyses do, is based on the fact that not all dialects realise lexical accent with the same tone. There is a traditional classification in Norwegian that groups dialects into H-tone or L-tone dialects according to how Accent 1 is realised on the syllable bearing main stress. East Norwegian dialects belong to the L-tone dialects, whereas most

35. We use graphemic representations instead of IPA transcriptions here, to simplify reading and because our focus lies on the tonal accent and not the segmental or phonemic make-up of words.

Western and some Northern dialects belong to the H-tone dialects. Thus, by not designating a particular tone as the lexically specified one, we allow room for dialectal variation.

Before we move on to our explanation of how accent assignment functions, there are two general statements to be made about lexical and default accent assignment. First, lexical accent is almost always realised[36] and, second, if no lexical accent is specified, polysyllabic words will be assigned Accent 2 and monosyllabic words (including words with final stress) will receive Accent 1.

1.2. Lexical and default accent assignment

The following two general rules in (4) represent the stepping stones required for correct accent assignment in Scandinavian. These rules refer to non-compounds, i.e., simplex words as well as prefixed or suffixed words. Some affixed forms, such as words with stressed prefixes, fall into the category of compounds because they consist of two prosodic words. However, since accent assignment for compounds follow the same rules as simplex words with only a few additions, as will become apparent in Chapter 4, we also include some stressed prefixes in this chapter – to give a foretaste of compound accent assignment.

(4) Rules of lexical and default accent

a. Lexical Accent 1 always dominates.

b. Default accent assignment (if no lexical specification):
   i. $[\ldots\ '\sigma\ \sigma\ \ldots]_{\omega}$ → Accent 2
   ii. $[\ldots\ '\sigma\ ]_{\omega}$ → Accent 1

The first statement (4a) tells us that if a form includes any lexical specification, be it on a stem or affix, the outcome will be Accent 1. Thus, all words listed in (1a) with lexical specification, e.g. *ǎksje* ‘stock’, *Lǒndon*, etc., have Accent 1, as do their plurals, e.g. *ǎksjer* ‘stocks’. Rule (4b, (i)) infers that any word without lexical specification, consisting of at least one disyllabic trochee, receives Accent 2 as the default. Therefore, a word like '*kirke* ‘church’,

36. The only exceptional cases where lexical accent is not realised concerns lexically specified monosyllabic words. Monosyllables are all Accent 1 on the surface because of the Disyllabic Trochee Rule, as we will see in (4), however, in our approach they can also differ underlyingly in lexical specification. We dedicate Chapter 5 to explaining the special status of monosyllables.

which consists of a stressed syllable followed by an unstressed one – and has no lexical specification for accent (i.e., ['σ σ] or /kirke/) – will have Accent 2, namely '*kirke*$_2$. Its plural will remain Accent 2, i.e., '*kirker*$_2$ 'churches', since as we claim the regular plural suffix {-er} is also unspecified for accent. Rule (4b, (ii)) captures the fact that all monosyllables and words with final stress have Accent 1. We refer to (4b, (ii)) also as the "Disyllabic Trochee Rule", which states that if a word bears no lexical specification, and does not contain at least a disyllabic trochee, it must receive Accent 1.[37] Therefore, in our analysis, words can only be specified for bearing lexical Accent 1. However, all monosyllables and words with final stress also have Accent 1 per default, since they lack a disyllabic trochee. We furthermore claim that, although both lexically specified words and words that receive Accent 1 per default, all have Accent 1 on the surface, underlyingly they may still differ. This difference surfaces in compounds as we will see in Chapter 4.

With the basic tools in hand for determining accent assignment in Standard East Norwegian, we now illustrate how lexical specification and default accent assignment function by going step by step through our analysis of accent assignment for nouns in the indefinite singular and plural.

(5) Lexical specification and default accent assignment: Indefinite singular and plural

	Lexical representation	Indefinite singular	Indefinite plural[38] (stress + accent assignment)			Gloss
a.	/ǎksje/ /-er/	'aksje$_1$	'ǎksje-er	>	'aksjer$_1$	*stock*
b.	/dǒkument/ /-er/	doku'ment$_1$	doku'mĕnt-er$_1$	>	doku'menter$_1$	*document*
c.	/kirke/ /-er/	'kirke$_2$	'kirke-er	>	'kirker$_2$	*church*
d.	/hest/ /-er/	'hest$_1$	'hest-er	>	'hester$_2$	*horse*
e.	/vintr/ /-er/	'vinter$_1$	'vintr-er	>	'vintrer$_2$	*winter*
f.	/tiĕr/ /-er/	'tiger$_1$	'tĭgr-er	>	'tigrer$_1$	*tiger*[39]
g.	/hånd/ /-ĕr/	'hånd$_1$	'hĕnd-er	>	'hender$_1$	*hand*

37. Since tonal accent only anchors to syllables bearing main stress, the Disyllabic Trochee Rule refers only to disyllabic trochees bearing main stress. Secondary stress is irrelevant.

38. When the plural suffix is added to stems ending in schwa, the suffix vowel deletes. Plural formation will be discussed in more detail in section 2.1.

39. Words ending in *-er* like *tiger* often have a second possible plural form '*tigere*$_1$ 'tigers', which is preferred by many speakers. We discuss this plural ending in section 2.1 of this chapter.

Examples (5a,b) illustrate the first rule of accent assignment which implies that if a stem or morpheme is lexically specified, i.e., contains a diacritic in our transcriptions, the result is Accent 1. These examples both have lexically specified stems (/ǎksje/, /dǒkument/) and thus Accent 1 in the singular ('*aksje*$_{\mathbf{1}}$ 'stock', *doku'ment*$_{\mathbf{1}}$ 'document') as well as the plural ('*aksjer*$_{\mathbf{1}}$ 'stocks', *doku'menter*$_{\mathbf{1}}$ 'documents'). Examples (5c,d) bear no lexical specification (/kirke/, /hest/), and since '*kirke*$_{\mathbf{2}}$ 'church' contains a disyllabic trochee, it has Accent 2, which complies with rule (4b, (i)). Rule (4b, (ii)) applies to *hest*$_{\mathbf{1}}$ 'horse' because it lacks a disyllabic trochee and thus following the Disyllabic Trochee Rule, it must have Accent 1 in the singular. One generalisation captured by the Disyllabic Trochee Rule, which we have seen in all approaches up to now, is that Accent 2 is the phonetically more complex accent of the two accents in Standard East Norwegian, i.e., it requires a disyllabic trochee for its realization and all words without a trochee get Accent 1. Example (5e) '*vinter*$_{\mathbf{1}}$ 'winter' is disyllabic on the surface, yet we assume it has a monosyllabic unspecified stem /vintr/, which surfaces with Accent 1, just like all monosyllabic words, e.g. *hest*$_{\mathbf{1}}$ 'horse'. Schwa-epenthesis between the two final consonants in the cluster takes place after accent assignment ('*vinter*$_{\mathbf{1}}$). We know this must be the correct order of events because, when the unspecified plural suffix {-er} is added to the monosyllables /*vintr*/ and /*hest*/, both forms become disyllabic and receive regular Accent 2 '*vintrer*$_{\mathbf{2}}$ 'winters', '*hester*$_{\mathbf{2}}$ 'horses'. The plural suffix {-er} adds a second syllable to both /vintr/ and /hest/ creating disyllabic trochees '*vintrer*$_{\mathbf{2}}$ 'winters', '*hester*$_{\mathbf{2}}$ 'horses' – the required environment for Accent 2. If '*vinter*$_{\mathbf{1}}$ 'winter', however, were genuinely disyllabic in the singular and had Accent 1, our analysis would assume it is lexically specified. We would therefore also expect it to have an Accent-1 plural, as in words such as the lexically specified /ǎksje/ '*aksje*$_{\mathbf{1}}$ 'stock', '*aksjer*$_{\mathbf{1}}$ 'stocks' in (5a) and /tiǧer/ '*tiger*$_{\mathbf{1}}$ 'tiger', '*tigrer*$_{\mathbf{1}}$ 'tigers' in (5f).

The final example (5g) /hånd/ has a monosyllabic singular form and consequently Accent 1 for lack of a disyllabic domain ('*hånd*$_{\mathbf{1}}$ 'hand'). Yet when the plural suffix is added creating a disyllabic trochee, it remains Accent 1 and undergoes umlauting ('*hender*$_{\mathbf{1}}$ 'hands'). As we saw in (1b), we classify the umlauted plural as lexically specified, i.e., {¨ěr}$_{\text{PLURAL}}$. The reason for this is that all umlauted plurals have Accent 1. Thus, the umlauted plural suffix must be

lexically specified causing Accent 1 in each and every case, as in *hånd*$_{\mathbf{1}}$ ‘hand’, '*hender*$_{\mathbf{1}}$ ‘hands’.[40]

We can conclude from these examples, that there are basically four scenarios of accent assignment in the indefinite singular and plural:

(i) Stems can be specified for lexical accent, as /ǎksje/ in (5a), /dǒkument/ in (5b), /tǐger/ in (5f), and thus will have both Accent-1 singulars and plurals ('*aksje*$_{\mathbf{1}}$, '*aksjer*$_{\mathbf{1}}$ ‘stock, stocks’; *doku'ment*$_{\mathbf{1}}$, *doku'menter*$_{\mathbf{1}}$ ‘document, documents’; '*tiger*$_{\mathbf{1}}$, '*tigrer*$_{\mathbf{1}}$ ‘tiger, tigers’).

(ii) Stems can be monosyllabic as /hest/ and /vintr/ in (5d,e), with epenthesis after accent assignment for '*vinter*$_{\mathbf{1}}$. Both forms have monosyllabic Accent 1 ('*hest*$_{\mathbf{1}}$ ‘horse’, '*vinter*$_{\mathbf{1}}$ ‘winter’) in the singular. When an unspecified suffix is added creating a true disyllabic domain before accent assignment, the result is Accent 2 as in the plural forms '*hester*$_{\mathbf{2}}$ ‘horses’, '*vintrer*$_{\mathbf{2}}$ ‘winters’. Here, no lexical specification is at play.

(iii) Stems can be polysyllabic and lexically unspecified for accent, as in (5b) *kirke*. Disyllabic unspecified stems with stress on the first syllable have default Accent 2 in the singular and plural if they take the regular unspecified plural suffix ('*kirke*$_{\mathbf{2}}$ ‘church’, '*kirker*$_{\mathbf{2}}$ ‘church/es’).

(iv) Finally, in (5g) *hånd* we see that there are also cases of unspecified monosyllabic stems which have Accent 1 in the singular for lack of a disyllabic trochee and Accent 1 in the plural because these stems take the lexically specified umlauted plural.

So far, we have presented a small taste of the basics of our approach. What follows is a discussion of inflectional and derivational morphology and accent assignment in Standard East Norwegian to show the advantages of our approach over Accent-2 analyses and to relate how our analysis can easily tackle problems or complications encountered by Accent-2 approaches. We begin with the analysis of inflection in nouns in the following section and then proceed to verbs and adjectives before tackling derivational affixes in section 3.

40. There are a few cases of umlauted plurals that have Accent 2 (*far, 'fedre* ‘father/s’; *mor, 'mødre* ‘mother/s’). However, these are few, and we believe that Accent 2 can be attributed to the diachronic development of these words.

2. Inflectional morphology and accent assignment

2.1. Noun inflection

We briefly illustrated how we believe accent assignment works with a few examples of the indefinite plural in Standard East Norwegian in (5). We now give a full account of accent assignment and plural formation.

In our analysis, the indefinite plural suffix is {-er}. We could also have claimed that it is a {-ɾ̩} as in Kristoffersen (2000: 259). However, if we assumed that the suffix is merely a syllabic /ɾ̩/, the syllabicity would be retained everywhere except after schwa and stressed vowels. Claiming that the suffix is a full vowel + /r/, i.e., {-er} explains vowel deletion more effectively in many forms, since two identical vowels never surface in the plural, e.g. /pike//er/ > not **pikeer* but correct is '*piker*$_{\mathbf{2}}$ 'girls'. Two dissimilar vowels, however, can be adjacent /opera//er/ > '*operaer*$_{\mathbf{1}}$ 'operas'. In cases with two adjacent schwas, we assume that the schwa of the plural suffix deletes and not the schwa of the stem (*pike* + *er* > *pike* + *r* > '*piker*$_{\mathbf{2}}$ 'girls') for reasons given below in section 2.1.2.

Similar to Kristoffersen (2000), our analysis also infers that the plural suffix has two allomorphs. However, we do not specify this more frequent "regular" plural morpheme {-er} for lexical accent – contrary to Kristoffersen (2000), who equips this plural suffix with a lexical H tone {-ɾ̩^{H}}. As we saw in (5g), we claim that the less common plural suffix {¨-ĕr}, which co-occurs with umlauting of the stem vowel, must be specified in the lexicon, since it is not predictable and always results in Accent 1.

To provide the complete picture of plural formation in Standard East Norwegian, we should also mention that here are two additional plural suffixes. First, monosyllabic neuter stems most often have a {-Ø} plural suffix: e.g. *ting*$_{\mathbf{1}}$ 'thing', *ting*Ø$_{\mathbf{1}}$ 'things'. Second, stems ending in *-er* can take one of three endings. They either have the regular {-er} plural ('*hammer*$_{\mathbf{2}}$ 'hammer', *hammere(r)*$_{\mathbf{2}}$/'*hamrer*$_{\mathbf{2}}$ 'hammers'), or only an {-e} ('*baker*$_{\mathbf{2}}$ 'baker', '*bakere*$_{\mathbf{2}}$ 'bakers', *te*'*ater*$_{\mathbf{1}}$ 'theatre', *te*'*atre*$_{\mathbf{1}}$ 'theatres'; '*fetter*$_{\mathbf{1}}$, 'male cousin', '*fettere*$_{\mathbf{1}}$ 'male cousins'), or they have a {-Ø} suffix ('*liter*$_{\mathbf{1}}$ 'liter', '*liter*Ø$_{\mathbf{1}}$ 'liters'). Note that none of these affixes are lexically specified for accent since they all occur in Accent-2 forms, unless they occur with lexically specified stems as in {tĕatr} + {-e} > *te'atre*$_{\mathbf{1}}$ 'theatres' and {fĕtter} + {-e} > '*fettere*$_{\mathbf{1}}$ 'male cousins'. Below we list the plural suffixes for Standard East Norwegian indefinite nouns.

(6) Plural suffixes in Standard East Norwegian

a. {-er} unspecified for accent

b. {¨-ĕr} lexically specified for umlauting and Accent 1

c. {-e} unspecified for accent

d. {-Ø} unspecified for accent

Note that only (6b) the umlauting plural {¨-ĕr} is lexically specified, all other endings including the most common plural ending {-er} are unspecified. We will now see more indefinite plural formations in conjunction with the next categories of inflectional morphology that we consider: the definite singular and plural of nouns. These suffixes are claimed to be tonally neutral by most analyses and to be L-inducing suffixes in Withgott & Halvorsen (1984). However, we will show they are fundamentally different from other inflectional suffixes.

2.1.1. Definite singular and plural formation

East Norwegian dialect speakers tend to use either one of two types of gender systems. There are dialect speakers that use three genders (masculine, feminine, and neuter), and those that predominantly use two genders (common and neuter) and only a few select feminine forms like *kua* ‘cow/the’. We choose to work with a two-gender system for simplicity of illustration and because feminine nouns behave no differently from masculine concerning accent assignment. In the following, we refer to the definite singular article for the neuter *-et* and for the common gender *-en*. We assume that these articles are full syllables because of their behaviour with monosyllables ending in a vowel, e.g. '*treet*$_{\mathbf{1}}$ ‘tree/the’, '*breen*$_{\mathbf{1}}$, ‘glacier/the’. Similar to the plural suffix {-er}, the schwa of these articles also deletes when attaching to polysyllabic stems also ending in schwa, e.g. '*eple* + *et* > '*eple-t*$_{\mathbf{2}}$ ‘apple/the’, '*stjerne* + *en* > '*stjerne-n*$_{\mathbf{2}}$ ‘star/the’.

The definite plural morpheme is {-ne} and receives an initial epenthetic /e/ at the conjunction of the plural stem, when it is added to monosyllables *(skip-e-ne* ‘ships/the’). Moreover, there is a special definite plural marker {-a}$_{NEUTER}$, which a handful of nouns can alternatively take e.g. '*barnene*$_{\mathbf{1}}$/'*barna*$_{\mathbf{1}}$ ‘the children’, '*årene*$_{\mathbf{1}}$/'*åra*$_{\mathbf{1}}$ ‘the years’. The linear order for the definite in Standard East Norwegian is as follows.

(7) Linear order for definite singular and plural formation

Definite singular: stem + DEFINITE {-et/-en}
Definite plural: stem + plural suffix + DEFINITE {-ne}

Note that the definite marker is always outside the number affix. Before giving our analysis of the definite and indefinite, let us look at the distribution of accent for nouns in the definite singular and plural. We start with monosyllabic neuter nouns that take a {-Ø} plural suffix.

(8) Monosyllabic singular and plural (neuter)

	Indefinite singular	Definite singular	Indefinite plural	Definite plural	Gloss
a.	år_1	'året_1	år_1	$\text{'årene}_1/\text{'åra}_1$	*year*
b.	ben_1	'benet_1	ben_1	$\text{'benene}_1/\text{'bena}_1$	*leg*
c.	skip_1	'skipet_1	skip_1	'skipene_1	*ship*
d.	fjell_1	'fjellet_1	fjell_1	'fjellene_1	*mountain*
e.	brev_1	'brevet_1	brev_1	$\text{'brevene}_1/\text{'breva}_1$	*letter*[41]

Monosyllabic neuter nouns, as seen here in the first and third columns, are monosyllabic both in the indefinite singular and plural, but disyllabic in the definite singular and plural (cf. second and fourth columns). All forms have Accent 1. It is striking that, although the addition of the definite singular and plural articles creates new disyllabic trochaic environments, these nouns retain Accent 1 throughout the paradigm, for a reason that will be explained shortly. The next set of monosyllabic nouns we examine take the regular {-er} plural, therefore, they have monosyllabic indefinite singular and polysyllabic indefinite plural forms.

(9) Monosyllabic singular and disyllabic plural (common gender)

	Indefinite singular	Definite singular	Indefinite plural	Definite plural	Gloss
a.	gris_1	'grisen_1	'griser_2	'grisene_2	*pig*
b.	rev_1	'reven_1	'rever_2	'revene_2	*fox*
c.	hest_1	'hesten_1	'hester_2	'hestene_2	*horse*
d.	labb_1	'labben_1	'labber_2	'labbene_2	*paw*

41. Jan Terje Faarlund (p.c.) kindly pointed out that the plural of some monosyllabic neuter nouns such as (8e) *brev* 'letter' can take the regular unspecified plural suffix {-er} ('$\textit{brever}_2$ 'letters') for some speakers. The definite plural for these speakers we predict should also be Accent 2 ('$\textit{brevene}_2$ 'letters/the) like the nouns in (9) and this seems to follow. However, we would have to test this on a larger sample of speakers to be absolutely certain.

Monosyllabic common gender nouns only remain monosyllabic in the indefinite singular (column 1). The addition of the syllabic definite singular article {-en} in column 2 produces a disyllabic trochaic domain, yet analogous to the monosyllabic neuter nouns in (8), these disyllabic forms all have Accent 1. Common gender nouns usually take a syllabic plural suffix {-er} as in (9a-d), and have Accent 2 in both indefinite and definite plural forms, as can be seen in columns 3 and 4.

The next two examples below in (10) *fot*$_1$ 'foot' and *natt*$_1$ 'night' illustrate that for some common gender nouns, the syllabic plural suffix {-er} is accompanied by umlauting of the stem vowel and Accent 1, as we already saw in (5g). These umlauted plurals have Accent 1 in both indefinite and definite forms (columns 3 & 4).

(10) Monosyllabic singular and disyllabic plural with umlaut (common gender)

	Indefinite singular	Definite singular	Indefinite plural	Definite plural	Gloss
a.	fot$_1$	'foten$_1$	'føtter$_1$	'føttene$_1$	*foot*
b.	natt$_1$	'natten$_1$	'netter$_1$	'nettene$_1$	*night*

The final set of nouns to be considered, before we give our analysis, are those with polysyllabic stems.

(11) Polysyllabic singular and plural (neuter and common gender)

	Indefinite singular	Definite singular	Indefinite plural	Definite plural	Gloss
a.	ho'tell$_1$	ho'tellet$_1$	ho'teller$_1$	ho'tellene$_1$	*hotel*
b.	'stjerne$_2$	'stjernen$_2$	'stjerner$_2$	'stjernene$_2$	*star*
c.	'aksje$_1$	'aksjen$_1$	'aksjer$_1$	'aksjene$_1$	*stock*
d.	'vindu$_2$	'vinduet$_2$	'vinduer$_2$	'vinduene$_2$	*window*
e.	'lager$_1$	'lageret$_1$	'lagere$_1$	'lagrene$_1$	*ware house*
f.	'hammer$_2$	'hammeren$_2$	'hamre(r)$_2$	'hamrene$_2$	*hammer*
g.	'aksel$_1$	'akselen$_1$	'aksler$_2$	'akslene$_2$	*shoulder*
h.	'doktor$_1$	'doktoren$_1$	dok'torer$_1$	dok'torene$_1$	*doctor*

In these examples in (11), Withgott & Halvorsen (1984, 1988) would claim, resides the evidence for the stability of the accent of polysyllabic stems. Polysyllabic stems never differ in accent from the indefinite singular to the definite plural. If we have an Accent-1 or Accent-2 singular form (*ho*'*tell*$_1$ 'hotel', '*stjerne*$_2$ 'star'), this accent is retained in the definite singular

(*ho*'*tellet*$_1$ 'hotel/the', '*stjernen*$_2$ 'star/the'), in the indefinite plural (*ho*'*teller*$_1$ 'hotels', '*stjerner*$_2$ 'stars'), and in the definite plural (*ho*'*tellene*$_1$ 'hotels/the', '*stjernene*$_2$ 'stars/the'). However, we would be leading the horse by the tail if we assumed that these examples demonstrate the stability of polysyllabic stems, as Withgott & Halvorsen (1984, 1988) do. A brief look back at the monosyllables reveals a quite obvious pattern (cf. (8), (9)).

Looking back at the monosyllables in (8) and (9), we see that the stability actually lies in the accent of the indefinite. Whatever accent a noun has in the indefinite singular or plural, the addition of the definite article never changes it – which is a well-established fact (cf. Haugen 1963/1983:277f). This can be seen, on the one hand, by comparing the first two columns in (8) and (9). These forms, monosyllabic in the indefinite and disyllabic in the definite, are all Accent 1, i.e., *skip*$_1$, '*skipet*$_1$ in (8c), *hest*$_1$, '*hesten*$_1$ in (9c). The same generalisation applies, on the other hand, to the third and fourth columns. Whatever accent the indefinite plural has, the definite plural matches it (e.g. (8c) *skip*$_1$, '*skipene*$_1$; (9c) '*hester*$_2$, '*hestene*$_2$).

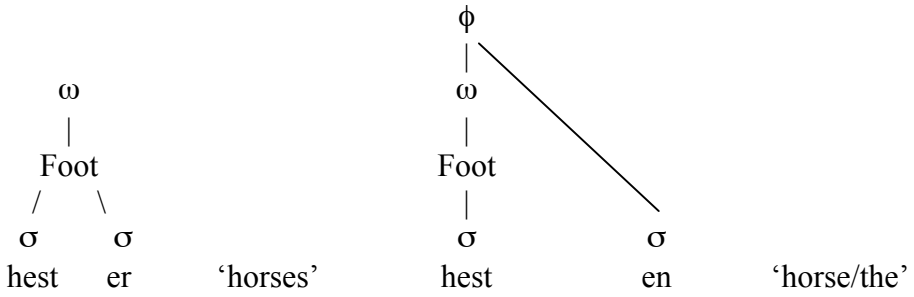
The discrepancy in accent resulting from the addition of a syllabic definite article or a syllabic plural morpheme tells us that there is an essential difference between the definite singular suffixes {-et}, {-en} and the indefinite plural suffix {-er}. In both cases a syllable is added creating a disyllabic trochee when added to monosyllables. Yet the accent never changes from the indefinite to the definite singular as it does when the indefinite plural suffix {-er} is added, cf. (9a-d). The addition of the indefinite plural suffix {-er} changes the accent from a monosyllabic Accent-1 indefinite singular to a disyllabic Accent-2 indefinite plural everywhere (e.g. (9c) *hest*$_1$ 'horse' – '*hester*$_2$ 'horses') – except where there is umlauting (e.g. (10a) *fot* 'foot', '*føtter*$_1$ 'feet'). Going one step further, we see that the definite suffix does not change the accent of the plural form either, its accent always matches the accent of the indefinite plural ('*hester*$_2$ 'horses', '*hestene*$_2$ 'horses/the'; '*føtter*$_1$ 'feet', '*føttene*$_1$ 'feet/the'). Thus, in concord with Haugen (1967/1983)), Kristoffersen (2000) and Riad (2003b) for Central Swedish, we too assume that the definite does not bear lexical accent.

> "The fact that these [definite articles] are non-tonal marks the article as less intimately fused with the stem than the plural suffix (masculine and feminine), which is '-er' (cf. neuter zero)." (Haugen 1967/1983:193f)[42]

42. The grave accent mark before the plural suffix denotes Accent 2 in Haugen (1967/1983).

However, as Haugen (1967/1983)) hints at, the crucial difference between the definite articles and other inflectional affixes is that the definite article is not attached to the stem in the same way as other inflections, e.g. the indefinite plural. Indeed, we just saw that the definite never changes the accent as the regular plural suffix can. In Chapter 1, we mentioned that the definite article was historically a post-positioned demonstrative, the meaning of which was weakened with concomitant destressing at some point, and encliticized to the noun (Wessén 1970). Our analysis of the synchronic definite articles in Scandinavian in general is that they still are phonologically enclitics and are attached post-lexically after accent assignment. This is the reason why they appear to be invisible to accent assignment. One way of representing the difference between the plural affix {-er} and the definite marker {-en}/{-et} is to fully integrate the stem and the plural affix into one prosodic constituent that is the domain for stress assignment (and, thus, for accent assignment). The definite marker {-en}/{-et} then is represented as a weak syllable outside the prosodic domain for stress assignment.

(12) Derivations of '*hester*$_2$ and '*hesten*$_1$



As can be seen in (12), the regular plural suffix becomes part of a disyllabic foot with /hest/, whereas the definite article does not.[43] The difference can also be represented as [hester]$_\omega$ vs. [hest]$_\omega$en]$_\phi$. In both cases what we are trying to illustrate is that definite articles are outside of the domain of accent assignment and thus are invisible to it, a phenomenon that Inkelas (1989) and Lahiri, Jongman & Sereno (1990) also observed for other languages. Phonologically then the definite articles in Norwegian are acting like enclitics.

We admit that we are a bit uncomfortable using a term like "enclitic". Clitics are not easily captured with a set of common characteristics, especially since they have morphological, syntactical as well as phonological features. Setting up a group of criteria that will cross-

43. The Greek letters denote the following: ϕ (phonological phrase); ω (prosodic word), σ (syllable).

linguistically capture clitics, yet allow affixes to escape, is like trying to gather up the mercury from a broken thermometer. There will always be a language in which, for instance, something might be morphologically a prime example of a clitic, but behave phonologically like an affix. That is why we explicitly would like to say that our decision to label something that attaches after accent assignment as a clitic is entirely based on phonological and diachronic evidence.

2.1.2. Analysis of definite singular and plural formation and accent assignment

We propose that the definite markers are not lexically specified for Accent 1 as Withgott & Halvorsen (1984, 1988) suggest. Even though they add a whole syllable with a proper nucleus, they do not create a new domain for accent assignment, and they do not induce Accent 1 on polysyllabic stems. Therefore, we claim that they are enclitics, and consequently our analysis of the definite singular and plural is as follows.

(13) Monosyllabic singular and plural (neuter)

	Indefinite singular	Definite singular	Indefinite plural	Definite plural	Gloss
a.	$\text{år}_{\mathbf{1}}$	$\text{'år}_{\mathbf{1}}\text{=et}$	$\text{år-Ø}_{\mathbf{1}}$	$\text{'år}_{\mathbf{1}}\text{=ene/'år}_{\mathbf{1}}\text{=a}$	*year*
b.	$\text{ben}_{\mathbf{1}}$	$\text{'ben}_{\mathbf{1}}\text{=et}$	$\text{ben-Ø}_{\mathbf{1}}$	$\text{'ben}_{\mathbf{1}}\text{=ene/'ben}_{\mathbf{1}}\text{=a}$	*leg*
c.	$\text{skip}_{\mathbf{1}}$	$\text{'skip}_{\mathbf{1}}\text{=et}$	$\text{skip-Ø}_{\mathbf{1}}$	$\text{'skip}_{\mathbf{1}}\text{=ene}$	*ship*
d.	$\text{fjell}_{\mathbf{1}}$	$\text{'fjell}_{\mathbf{1}}\text{=et}$	$\text{fjell-Ø}_{\mathbf{1}}$	$\text{'fjell}_{\mathbf{1}}\text{=ene}$	*mountain*
e.	$\text{brev}_{\mathbf{1}}$	$\text{'brev}_{\mathbf{1}}\text{=et}$	$\text{brev-Ø}_{\mathbf{1}}$	$\text{'brev}_{\mathbf{1}}\text{=ene/'brev}_{\mathbf{1}}\text{=a}$	*letter*

The equal sign indicates cliticization. Since cliticization takes place post-lexically, this means that only the domain preceding the equal sign can be considered for accent assignment. In (13), monosyllabic neuter nouns remain monosyllabic in the indefinite singular and plural, thus, the only domain ever available to accent assignment is monosyllabic. Accent assignment for these words works we assume as follows.

(14) Accent assignment & definite enclitics (monosyllabic neuter)

	Lexical representation	>	Stress, accent assignment	>	Cliticization (singular)	>	Definite singular	Gloss
a.	/år/	>	'år$_1$	>	'år$_1$=et	>	'året$_1$	*year/the*
	/år/ /Ø/	>	'år$_1$	>	'år$_1$=ene/=a	>	'årene$_1$/a$_1$	*years/the*
b.	/ben/	>	'ben$_1$	>	'ben$_1$=et	>	'benet$_1$	*leg/the*
	/ben/ /Ø/	>	'ben$_1$	>	'ben$_1$=ene/=a	>	'benene$_1$/a$_1$	*legs/the*
c.	/skip/	>	'skip$_1$	>	'skip$_1$=et	>	'skipet$_1$	*ship/the*
	/skip/ /Ø/	>	'skip$_1$	>	'skip$_1$=ene/=a	>	'skipene$_1$	*ships/the*
d.	/fjell/	>	'fjell$_1$	>	'fjell$_1$=et	>	'fjellet$_1$	*mountain/the*
	/fjell/ /Ø/	>	'fjell$_1$	>	'fjell$_1$=ene/=a	>	'fjellene$_1$	*mountains/the*
e.	/brev/	>	'brev$_1$	>	'brev$_1$=et	>	'brevet$_1$	*letter/the*
	/brev/ /Ø/	>	'brev$_1$	>	'brev$_1$=ene/=a	>	'brevene$_1$/a$_1$	*letters/the*

The examples in (14) illustrate how stress and accent assignment precede cliticization. In column 2, the monosyllabic neuter nouns receive stress and accent before the definite article {=et} is encliticized in column 3. As accent assignment is concluded before the definite article is added, only a monosyllabic environment is available and Accent 1 is, of course, the result. These neuter nouns have a {-Ø} plural suffix and once again only a monosyllabic environment is available for accent assignment. The indefinite plural thus has Accent 1, to which the definite clitic is added, and the whole word remains Accent 1.

Now let us return to the common gender monosyllables which have polysyllabic plurals.

(15) Monosyllabic singular and disyllabic plural (common gender)

	Indefinite singular	Definite singular	Indefinite plural	Definite plural	Gloss
a.	gris$_1$	'gris$_1$=en	'gris-er$_2$	'gris-e$_2$=ne	*pig*
b.	rev$_1$	'rev$_1$=en	'rev-er$_2$	'rev-e$_2$=ne	*fox*
c.	hest$_1$	'hest$_1$=en	'hest-er$_2$	'hest-e$_2$=ne	*horse*
d.	labb$_1$	'labb$_1$=en	'labb-er$_2$	'labb-e$_2$=ne	*paw*
e.	fot$_1$	'fot$_1$=en	'fø̆tt-er$_1$	'fø̆tt-e$_1$=ne	*foot*
f.	natt$_1$	'natt$_1$=en	'nĕtt-er$_1$	'nĕtt-e$_1$=ne	*night*

In the definite singular, these monosyllabic nouns take the common gender enclitic {=en}, which behaves in exactly the same way as the neuter article just discussed. Therefore, these monosyllabic nouns have Accent 1 in the indefinite and definite singular. Since the plural

suffix of common gender nouns consists of a syllable, new possibilities are opened for accent assignment. This is not the case for the neuter indefinite plural forms where the suffix is {-Ø} a we saw in (13). If a noun takes the regular, unspecified plural suffix {-er}, the result is a disyllabic Accent-2 form in the indefinite plural (cf. (15a-d)). According to Faarlund et. al. (1997:197), the /r/ of the indefinite plural suffix {-er} is deleted before the addition of the definite marker. This corresponds to our analysis, where we find tonal evidence that the first /e/ of the definite plural /-ene/ indeed must originate from the indefinite plural suffix. Thus, in the plural definite form, we find the 'stem + indefinite suffix', to which the definite enclitic is attached, producing a trisyllabic form. More precisely, we believe it works as follows.

(16) Accent assignment & definite enclitics (monosyllabic common gender)

	Lexical representation	>	Stress, accent assignment	>	Cliticization	>	Definite	Gloss
a.	/gris/	>	'gris$_1$	>	'gris$_1$=en	>	'grisen$_1$	*pig/the*
	/gris/ /-er/	>	'griser$_2$	>	'griser$_2$=ne	>	'grisene$_2$	*pigs/the*
b.	/rev/	>	'rev$_1$	>	'rev$_1$=en	>	'reven$_1$	*fox/the*
	/rev/ /-er/	>	'rever$_2$	>	'rever$_2$=ne	>	'revene$_2$	*foxes/the*
c.	/hest/	>	'hest$_1$	>	'hest$_1$=en	>	'hesten$_1$	*horse/the*
	/hest/ /-er/	>	'hester$_2$	>	'hester$_2$=ne	>	'hestene$_2$	*horses/the*
d.	/labb/	>	'labb$_1$	>	'labb$_1$=en	>	'labben$_1$	*paw/the*
	/labb/ /-er/	>	'labber$_2$	>	'labber$_2$=ne	>	'labbene$_2$	*paws/the*

In all examples in (16), accent assignment for the indefinite and definite singular takes place within a monosyllabic domain. Thus, both forms are Accent 1. When the regular plural suffix is added, creating a disyllabic domain before accent assignment, the outcome is Accent 2 for the indefinite plural forms. The definite enclitic is added after plural formation and hence it likewise has Accent 2. As mentioned before, the /r/ of the plural suffix is deleted before encliticization, i.e., '*grise(r)*$_2$*=ne* > '*grisene*$_2$ 'pigs/the' (cf. (16a)). In an Accent-2 form like '*grisene*$_2$, tonal evidence tells us that the /e/ in the second syllable must belong to the indefinite plural because it is available to accent assignment ('*grise(r)*$_2$*=ne*), and thus results in Accent 2. Unlike the /e/ in the second syllable of '*skipene*$_1$ 'ships/the', for example, which must be epenthetic as we mentioned earlier (cf. (14c)). We base this claim on the fact that when the definite {=ne} attaches to these plural forms, e.g. '*skip*$_1$ *=ne*, they retain Accent 1. This implies that the domain for accent assignment is monosyllabic, as we show in the following.

(17) Monosyllables and epenthetic vowels in the definite plural

Lexical representation		>	Stress, accent assignment	>	Cliticization	>	/r/ deletion/ epenthesis	>	Definite plural
a.	/gris/ /-er/	>	'griser$_{2}$	>	'griser$_{2}$=ne	>	'grise$_{2}$=ne	>	'grisene$_{2}$
b.	/skip/ /-Ø/	>	'skip$_{1}$	>	'skip$_{1}$=ne	>	'skip$_{1}$-e=ne	>	'skipene$_{1}$

The difference between these two definite plural forms becomes visible in the third column in (17). Here we see that (17a) '*griser*$_{2}$ 'pigs' has a disyllabic domain before cliticization '*griser*$_{2}$*=ne* 'pigs/the' and thus Accent 2, and that (17b) '*skip*$_{1}$*=ne* 'ships/the' only has a monosyllabic domain and, consequently, Accent 1. Column 4 depicts what happens after accent assignment and after the addition of the definite marker. In (17a), the regular plural suffix loses its indefinite marker /r/ ('*grise*$_{2}$*=ne*). In (17b), the monosyllabic indefinite plural form receives an epenthetic /e/ between the stem and definite marker ('*skip*$_{1}$*-e=ne*).

Returning to the nouns with umlauted plural from (15e,f) '*føtter*$_{1}$ 'feet', '*netter*$_{1}$ 'nights', both plural forms have Accent 1. The reason for Accent 1 here is that the umlauted plural is lexically specified. These forms have Accent 1 in the indefinite plural and, consequently, also in the definite plural, i.e., '*føtter*$_{1}$ 'feet', '*føttene*$_{1}$ 'feet/the'. Accent assignment for these forms is illustrated below in (18).

(18) Lexical accent assignment and umlauted plural

Lexical representation		>	Stress, accent assignment	>	Cliticization	>	Definite	Gloss
a.	/fot/	>	'fot$_{1}$	>	'fot$_{1}$=en	>	'foten$_{1}$	*leg/the*
	/fot/ /ˑ-ĕr/	>	'fŏtter$_{1}$	>	'føtter$_{1}$=ne	>	'føttene$_{1}$	*legs/the*
b.	/natt/	>	'natt$_{1}$	>	'natt$_{1}$=en	>	'natten$_{1}$	*night/the*
	/natt/ /ˑ-ĕr/	>	'nĕtter$_{1}$	>	'netter$_{1}$=ne	>	'nettene$_{1}$	*nights/the*

Examples (18a,b) are specified in the lexicon for taking the umlauted plural and Accent 1. The lexical specification of the umlauted plural suffix {ˑĕr} links to the main stressed syllable, assigning Accent 1 to both '*fŏtter*$_{1}$ 'feet' and '*nĕtter*$_{1}$ 'nights'. Consequently, the definite plurals also have Accent 1, i.e., '*føtter*$_{1}$*=ne*, '*netter*$_{1}$*=ne*. These umlauted forms nicely show that the definite enclitic indeed attaches directly to the indefinite plural form, since the stem vowels remain umlauted.

Our next set of nouns under investigation are polysyllabic in the indefinite singular.

(19) Polysyllabic singular and plural (neuter and common gender)

	Indefinite singular	Definite singular	Indefinite plural	Definite plural	Gloss
a.	'stjerne$_2$	'stjerne$_2$=n	'stjern-er$_2$	'stjern-e$_2$=ne	*star*
b.	'vindu$_2$	'vindu$_2$=et	'vindu-er$_2$	'vindu-e$_2$=ne	*window*
c.	'hammer$_2$	'hammer$_2$=en	'hamr-e(r)$_2$	'hamr-e$_2$=ne	*hammer*
d.	'aksel$_1$	'aksel$_1$=en	'aksl-er$_2$	'aksl-e$_2$=ne	*shoulder*
e.	ho'tĕll$_1$	ho'tĕll$_1$=et	ho'tĕll-er$_1$	ho'tĕll-e$_1$=ne	*hotel*
f.	'ăksje$_1$	'ăksje$_1$=n	'ăksj-er$_1$	'ăksj-e$_1$=ne	*stock*
g.	'lăger$_1$	'lăger$_1$=et	'lăger-e$_1$	'lăgr-e$_1$=ne	*ware house*
h.	'doktŏr$_1$	'doktŏr$_1$=en	dok'tŏr-er$_1$	dok'tŏr-e$_1$=ne	*doctor*

The unspecified polysyllabic stems (19a-c) all contain disyllabic trochees, and thus have Accent 2 throughout. In example (19a), which ends in a schwa ('*stjerne*), the schwas of the definite article and indefinite plural suffix are deleted. As we mentioned earlier, stems ending in schwa compel the deletion of the schwa of the definite singular {=en}, i.e., *stjerne* + *=en* > '*stjerne*$_2$=n, '*stjernen*$_2$ 'stars/the', and of the plural suffix {-er}, i.e., *stjerne* + *er* > *stjerne* + *r*, '*stjerner*$_2$ 'stars'. Once again, our claim is based on tonal evidence for the definite clitic, since we would have a monosyllabic domain before encliticization of {=en} if the schwa of the stem deleted, '*stjerne* would be Accent 1 in the definite singular **stjern*$_1$*=en*, instead of correctly Accent 2 *stjerne*$_2$*=n*. Example (19d) has an unspecified monosyllabic stem /aksl/ and thus Accent 1 in the indefinite and definite singular (*'aksl* > '*aksel*$_1$ (epenthesis after accent assignment), '*aksel*$_1$*=en* > '*akselen*$_1$), and Accent 2 in the indefinite and definite plural ('*aksler*$_2$ 'shoulders', *aksle(r)*$_2$*=ne* > '*akslene*$_2$ 'shoulders/the'). Among the polysyllabic nouns, there are lexically specified forms, e.g. *ho'tĕll*$_1$ 'hotel' in (19e), '*ăksje*$_1$ 'stock' in (19), '*lăger*$_1$, 'ware house' in (19g), and '*doktŏr*$_1$ 'doctor' in (19h), which all retain their lexical Accent 1 throughout the paradigm. Below we illustrate accent assignment for a few of these examples.

(20) Accent assignment for polysyllabic nouns (singular and plural)

	Lexical representation >	Stress, accent assignment >	(Epenthesis cliticization >	Definite singular	Gloss
a.	/hŏtell/ >	ho'tell$_1$ >	ho'tell$_1$=et >	ho'tellet$_1$	*hotel/the*
	/hŏtell/ /-er/ >	ho'teller$_1$ >	ho'teller$_1$=ne >	ho'tellene$_1$	*hotels/the*
b.	/ăksje/ >	'aksje$_1$ >	'aksje$_1$=et >	'aksjet$_1$	*stock/the*
	/ăksje/ /-er/ >	'aksjer$_1$ >	'aksjer$_1$=ne >	'aksjene$_2$	*stocks/the*
c.	/stjerne/ >	'stjerne$_2$ >	'stjerne$_2$=en >	'stjernen$_2$	*star/the*
	/stjerne/ /-er/ >	'stjerner$_2$ >	'stjerner$_2$=ne >	'stjernene$_2$	*stars/the*
d.	/aksl/ >	'aksl$_1$ >	'aksel$_1$=en >	'akselen$_1$	*shoulder/the*
	/aksl/ /-er/ >	'aksler$_2$ >	'aksler$_1$=ne >	'akslene$_1$	*shoulders/the*

Examples (20a,b) illustrate accent assignment with lexically specified stems. The lexical specification of the stem persists in all forms resulting in Accent 1 throughout the paradigm. An unspecified polysyllabic stem as (20c) /stjerne/ receives Accent 2 by default in all forms because no lexical specification is involved. The definite enclitics attach to unspecified Accent-2 forms in the singular and plural, and hiatus forces the vowels of the enclitics to be deleted.

2.1.3. Summary: Noun inflection and accent assignment

To sum up, our analysis of Standard East Norwegian nouns and inflection departs from the rules introduced in (4), repeated here in (21).

(21) Rules of lexical and default accent (repeated from (4))

a. Lexical Accent 1 always dominates.

b. Default accent assignment (if no lexical specification):
   i. $[\ldots\ '\sigma\ \sigma\ \ldots]_{\omega}$ → Accent 2
   ii. $[\ldots\ '\sigma\ ]_{\omega}$ → Accent 1

All that is necessary to add to these general rules to fully account for accent assignment of nouns in the singular and plural is, first of all, that the only lexically specified plural suffix is the umlauting plural, the remaining are unspecified (cf. (6)). Secondly, that the definite articles are enclitics.

The consequences for accent assignment are that an unspecified syllabic suffix, such as the regular plural suffix {-er}, adds another syllable to the noun stem, which may help to form a final trochee (and, thus, may affect tone assignment of monosyllables). Enclitics, however, attach post-lexically after accent assignment, and thus have no effect on polysyllabic or monosyllabic stems.

(22) Definite enclitics

Definite singular: {=et}, {=en}

Definite plural: {=ne}

Noun stems specified for lexical accent will persistently have Accent 1 throughout the entire paradigm, as stated in (21a). Monosyllables consistently have Accent 1 according to (21b), also when they contain a definite clitic. We will find more examples of clitics and evidence of their post-lexical attachment in our discussion of derivational suffixes in section 3.2 of this chapter, and in our discussion of compounds in Chapter 4.

The next subject of interest is how our lexical Accent-1 approach deals with accent assignment and verbal inflections.

2.2. Verb inflection

Now that we have carefully gone through all the steps of accent assignment, we will take up a quicker pace for the verbs, trying to go into only as much detail as necessary.

2.2.1. Infinitive and imperative (monosyllabic stems): Facts and analysis

The citation form of verbs in Norwegian dictionaries is the infinitive which consists of a verb stem + infinitive suffix. The infinitive in Standard East Norwegian can either be in the active or passive voice. The active is formed with the {-e} suffix, unless the stem is monosyllabic ending in a vowel, e.g. *gå* ‘to go’. In this case, the stem does not take a suffix.[44] The infinitive is preceded by the infinitive marker *å*, e.g. *å høre*$_{\mathbf{2}}$ ‘to hear’. The passive is created by adding a

44. There are a few exceptions to this observation, e.g. '*vie* ‘to marry’, '*skye* ‘to cloud over’, '*lee* ‘to move’.

{-s} to the active suffix, e.g. '*hør-e-s* 'hear (PASSIV)'. The passive infinitive is used not as often as the active infinitive, yet follows the same analysis. For this reason, we will only list the active infinitive forms in our analysis. The imperative form of a Standard East Norwegian verb is easily derived from the infinitive by simply deleting the infinitive suffix – if there is one – and can be equated with the actual verb stem. Therefore, we list both the infinitive and imperative forms in the following table.

(23) Verbs in the imperative and infinitive

	IMP(erative)	INF(initive)	Gloss (IMP)/(INF)
a.	'gå$_1$	'gå$_1$	*go!/to go*
b.	'se$_1$	'se$_1$	*see!/to see*
c.	'vis$_1$	'vise$_2$	*show!/to show*
d.	'finn$_1$	'finne$_2$	*find!/to find*
e.	'skriv$_1$	'skrive$_2$	*write!/to write*
f.	'hjelp$_1$	'hjelpe$_2$	*help!/to help*
g.	'sykle$_2$	'sykle$_2$	*cycle!/to cycle*
h.	'åpne$_2$	'åpne$_2$	*open!/to open*
i.	'klatre$_2$	'klatre$_2$	*climb!/to climb*
j.	analy'ser$_1$	analy'sere$_1$	*analyse!/to analyse*

As we can see from this list, most imperative and infinitive forms are either monosyllabic and have Accent 1 or are disyllabic and have Accent 2. The only exception is (23j) which is polysyllabic and has Accent 1 in the imperative and infinitive. These forms are all easily accounted for in our analysis.

Starting with the imperative, which is usually monosyllabic, our analysis claims that they follow the Disyllabic Trochee Rule. Since there is no disyllabic trochee here, these monosyllables all have Accent 1. The next three forms (23g-i) have identical disyllabic Accent-2 forms in the imperative and infinitive. Many verb stems ending in consonant clusters have the same polysyllabic form in the imperative and the infinitive.[45] These polysyllabic imperatives all have Accent 2, and thus must lack lexical specification. The final example in (23j) *analys'er* 'analyse' is originally of Greek origin and probably came into Scandinavian via German (*analy'sieren*) or French (*analy'ser*). Our example in (23j) has final stress in the

45. Some dialects have monosyllabic imperatives *sykl! klatr! åpn!* (Kristoffersen p.c.). Other speakers develop strategies to avoid these "difficult" imperatives (cf. Rice 2003).

imperative, thus does not contain a disyllabic trochee. It is then a candidate for receiving Accent 1 by the Disyllabic Trochee Rule. However, as we can see from the infinitive in the second column, it actually must be lexically specified for Accent 1, since the infinitive does consist of a disyllabic trochee, yet it remains Accent 1. A closer look at *analy'ser* tells us that we are not dealing with a monomorphemic form in the imperative, but rather with two morphemes, i.e., {analys} {er}. The stressed suffix {-er} turns nouns into verbs, which then persistently have Accent 1. Furthermore, as our analysis unfolds, we will see that the lexical accent of this derivational suffix {-ěr} prevails in all inflected forms.

The second column of (23) lists the infinitive forms, and once again we see that *gå*$_{\mathbf{1}}$ 'go' in (23a) and *se*$_{\mathbf{1}}$ 'to see' in (23b) have Accent 1, since their infinitives are also monosyllabic. The remaining unspecified infinitives consist of two syllables with stress on the initial syllable and thus all have Accent 2. Example (23j), as already mentioned, bears lexical specification, therefore, the addition of the infinitive suffix {-e} will not change the lexically specified Accent 1.

All analyses that claim that Accent 2 is the lexically specified accent must lexically specify the infinitive suffix to account for all Accent-2 forms, since in most cases the infinitive *-e* is added to a monosyllabic stem, which entails an accent change from monosyllabic 1 to disyllabic 2. They then have to account for the Accent-1 infinitive in (23j). Recall that this was the reason for the Tonal-Foot-Left Constraint in Kristoffersen (2000) (cf. Chapter 2, (27)) and the Two-Morpheme Constraint in Riad (2003b) (cf. Chapter 2, (42)). All our analysis has to say is that neither the imperative nor the infinitive are lexically specified. If a form contains a disyllabic trochee, which bears main stress, yet no lexical specification, the result is Accent 2 in both the infinitive and the imperative (23g-i). Only polysyllabic Accent-1 forms will be lexically specified, as are all borrowed verbs with the suffix {-ěr}*, e.g. analy'sere*$_{\mathbf{1}}$ 'to analyse'. We will revisit our analysis of the infinitives when discussing derivational prefixes in section 3.1. Now let us consider accent assignment and the present tense.

2.2.2. Present tense: Facts and analysis

We assume that the regular present tense suffix in Standard East Norwegian is unspecified {-er}. Kristoffersen's (2000) approach, in contrast, calls for a specified H-inducing suffix {-r^{H}}. We start once again by first investigating the facts.

(24) Monomorphemic verbs in the infinitive and present tense

	INF(initive)	PRES(ent tense)	Gloss (INF/ PRES)
a.	'gå$_1$	'går$_1$	*to go/ go*
b.	'se$_1$	'ser$_1$	*to see/ see*
c.	'vise$_2$	'viser$_2$	*to show/ show*
d.	'finne$_2$	'finner$_1$	*to find/ find*
e.	'skrive$_2$	'skriver$_1$	*to write/ write*
f.	'hjelpe$_2$	'hjelper$_1$	*to help/ help*
g.	'sykle$_2$	'sykler$_2$	*to cycle/ cycle*
h.	'åpne$_2$	'åpner$_2$	*to open/ open*
i.	'klatre$_2$	'klatrer$_2$	*to climb/ climb*
j.	analy'sĕre$_1$	analy'sĕrer$_1$	*to analyse/ analyse*

The present tense does not seem to be as homogenous as the infinitive and imperative forms. At first impression, the present tense suffix seems to be {-er} and is found in both Accent-1 and Accent-2 polysyllabic forms. However, as we already mentioned when discussing Withgott & Halvorsen (1984) and Kristoffersen (2000), diachronically we are dealing with different classes of verb stems. One class of ON verbs had a monosyllabic present tense, and one had a disyllabic present tense, which coincides with present tense forms in Modern Norwegian that have Accent 1 and Accent 2, respectively. This correspondence can best be seen if we consider the form marked for third person singular present as illustrated in the first column of (25) below.

(25) ON monosyllabic vs. disyllabic verb stems

a. Monosyllabic stems

	Swedish		Norwegian		
ON	PRES	IMP	PRES	IMP	Gloss
finnr	finner$_1$	finn$_1$	finner$_1$	finn$_1$	*find*
vinnr	vinner$_1$	vinn$_1$	vinner$_1$	vinn$_1$	*win*

b. Disyllabic stems

	Swedish		Norwegian		
ON	PRES	IMP	PRES	IMP	Gloss
elskar	'älskar$_2$	'älska$_2$	'elsker$_2$	'elsk$_1$	*love*
kallar	'kallar$_2$	'kalla$_2$	'kaller$_2$	'kall$_1$	*call*

Swedish has retained the monosyllabic–disyllabic differentiation in verb stems, which can be seen in the syllable count of the imperative, and the accent of the present tense. In (25a), both Swedish and Norwegian have Accent-1 disyllabic present tense forms and monosyllabic imperative forms. In (25b), however, Swedish has disyllabic Accent-2 present tense and imperative forms, whereas Norwegian has disyllabic present tense forms, which now have Accent 2, and monosyllabic imperatives. Therefore, we put Standard East Norwegian aside for one moment and take a short excursion into Swedish verb inflection.

(26) Swedish verb inflection: Imperative and present tense

	IMP	PRES	Gloss (IMP/ PRES)
a.	'gå$_1$	'går$_1$	*go!/ go*
b.	'se$_1$	'ser$_1$	*see!/ see*
c.	'visa$_2$	'visar$_2$	*show!/ show*
d.	'finn$_1$	'finner$_1$	*find!/ find*
e.	'skriv$_1$	'skriver$_1$	*write!/ write*
f.	'hjälp$_1$	'hjälper$_1$	*help!/ help*
g.	'cykla$_2$	'cyklar$_2$	*cycle!/ cycle*
h.	'öppna$_2$	'öppnar$_2$	*open!/ open*
i.	'klättra$_2$	'klättrar$_2$	*climb!/ climb*

Here, the correlation between disyllabic imperatives and Accent-2 present tense forms (26c,g,h,i) as well as monosyllabic imperatives and Accent-1 present tense forms (26a,b, d-f,) is quite transparent. Swedish has unquestionably retained the differentiation between ON monosyllabic and disyllabic stems, which surfaces most clearly in the imperative. For the present tense in Swedish, we argue that a non-syllabic present tense suffix {-r} is added to the monosyllabic and disyllabic stems. Thus, the accent of the present tense depends on the syllable count of the stem and works as follows.

(27) Accent assignment and Swedish verb inflection (present tense)

	Lexical representation	Accent assignment	Epenthesis	Gloss
a.	/gå/ /-r/	'går$_{1}$		*go*
b.	/se/ /-r/	'ser$_{1}$		*see*
c.	/visa/ /-r/	'visar$_{2}$		*show*
d.	/finn/ /-r/	'finnr$_{1}$	'finner$_{1}$	*find*
e.	/skriv/ /-r/	'skrivr$_{1}$	'skriver$_{1}$	*write*
f.	/hjälp/ /-r/	'hjälpr$_{1}$	'hjälper$_{1}$	*help*
g.	/cykla/ /-r/	'cyklar$_{2}$		*cycle*
h.	/öppna/ /-r/	'öppnar$_{2}$		*open*
i.	/klätra/ /-r/	'klätrar$_{2}$		*climb*

According to our analysis, examples (27a,b) are monosyllabic in the present tense and therefore receive Accent 1. The disyllabic stems (27c, g-i) bear no lexical specification and, consequently, have Accent-2 present tense forms. Examples (27d-f) have monosyllabic stems and since the present tense suffix is not syllabic, and epenthesis takes place after accent assignment, only a monosyllabic environment is available for accent assignment (/finnr/, /skrivr/, /hjälpr/). Notice also that the epenthetic vowel is even represented differently in the spelling, *er* vs. *ar* for monosyllabic and disyllabic stems, respectively. The only possible and correct output for (27d-f) is Accent 1. Thus, the difference in accent assignment in the Swedish present tense is the result of differences in the syllable count of the verb stems. Now let us return to Norwegian.

Standard East Norwegian did not retain the distinction of monosyllabic and disyllabic stems to the same extent as Swedish did. Norwegian has generally monosyllabic imperative forms. With the loss of the distinction of syllable count in the imperative, the only evidence that a Norwegian language learner has for the differentiation in the stems is no longer segmental but tonal, and this differentiation was transferred onto the suffix. We propose that Standard East Norwegian has two allophones for the present tense suffix. The verbs now differ in whether their present tense suffix is {-er} or {-r}, and not whether the stem is mono- or disyllabic. Note, once again, that there is no need to lexically specify either of these inflectional suffixes for accent: accent is assigned after suffixation of the present tense marker and before schwa epenthesis, as is shown in (28).

(28) Accent assignment and Norwegian verb inflection (present tense)

	Lexical representation	Stress & accent assignment	Epenthesis	Gloss
a.	/gå/ /r/	'går$_{\mathbf{1}}$		*go*
b.	/se/ /r/	'ser$_{\mathbf{1}}$		*see*
c.	/vis/ /er/	'viser$_{\mathbf{2}}$		*show*
d.	/finn/ /r/	'finnr$_{\mathbf{1}}$	'finner$_{\mathbf{1}}$	*find*
e.	/skriv/ /r/	'skrivr$_{\mathbf{1}}$	'skriver$_{\mathbf{1}}$	*write*
f.	/hjelp/ /r/	'hjelpr$_{\mathbf{1}}$	'hjelper$_{\mathbf{1}}$	*help*
g.	/sykl/ /er/	'sykler$_{\mathbf{2}}$		*cycle*
h.	/åpn/ /er/	'åpner$_{\mathbf{2}}$		*open*
i.	/klatr/ /er/	'klatrer$_{\mathbf{2}}$		*climb*
j.	/ănalyser/ /er/	analy'sĕrer$_{\mathbf{1}}$		*analyse*

Similar to Swedish, examples (28d-f) are all monosyllabic for accent assignment (/finnr/, /skrivr/, /hjelpr/), and thus all have Accent-1 present tense forms. Epenthesis takes place after accent assignment, creating disyllabic forms. All other unspecified forms take the syllabic present tense suffix {-er} and, consequently, consist of disyllabic trochees before accent assignment, thus resulting in default Accent 2. Once again the last example *analy'serer*$_{\mathbf{1}}$ remains Accent 1 as predicted, providing more proof for our assumption that the stressed verbal suffix {-er}$_{\text{VERB}}$ is lexically specified.

Kristoffersen (2000:263) also assumes two allomorphs for the present tense suffix as we mentioned in Chapter 2, section 2.2. One is lexically specified for Accent-2 {-r$^{\mathbf{H}}$}, and one is not specified {-r} to account for the Accent-1 forms. It seems rather suspicious to have to lexically specify the more numerous weak verbs (some 4,800), which mostly had disyllabic stems in ON, and to consider the strong verbs as representing the norm (200).[46] We agree with Kristoffersen (2000) in so far as we also claim that the present tense suffix of Standard East Norwegian today has two allomorphs that corresponds to syllable count differences in Norwegian spoken earlier. However, in our analysis, neither of these suffixes need be lexically specified for accent. One suffix is syllabic {-er} and the other not {-r}. Accent assignment in the present tense otherwise follows our general rules.

46. The numbers are taken from Enger & Kristoffersen (2000:88) who consulted the *Bokmålsordboka* (http://www.dokpro.uio.no/ordboksoek.html) to calculate these numbers.

2.2.3. Analysis of preterite and past perfect

Verbs in Standard East Norwegian, like in most Germanic languages, can be divided into two classes: strong and weak. The difference between strong and weak verbs is most noticeable in the preterite, although often also in the accent of the present tense as we just saw above. In the preterite, weak verb inflection consists of the addition of one of the following past tense suffixes, according to the class the verb belongs to and/or the phonological make-up of the stem: {-dde},{-et/-a}, {-te}, {-de}. Strong verbs, in contrast, usually have a {-Ø} suffix and stem vowel alternation in the preterite. Without going into too much detail about verb inflection, we now present simultaneously the facts and our analysis for accent assignment and the preterite and past perfect tenses. Below in (29) and (30), we list verb inflections for weak and strong verbs, respectively.

(29) Preterite and past perfect: Weak verbs

	Infinitive	Preterite	Past perfect	Gloss (INF)
a.	'ha$_1$	'hadde$_2$	'hatt$_1$	*to have*
b.	'kaste$_2$	'kastet$_2$/'kasta$_2$	'kastet$_2$/'kasta$_2$	*to throw*
c.	'reise$_2$	'reiste$_2$	'reist$_1$	*to travel*
d.	'leve$_2$	'levde$_2$	'levd$_1$	*to live*
e.	'gjøre$_2$	'gjorde$_2$	'gjort$_1$	*to do*
f.	'selge$_2$	'solgte$_2$	'solgt$_1$	*to sell*
g.	'spørre$_2$	'spurte$_2$	'spurt$_1$	*to ask*
h.	analy'sĕre$_1$	analy'serte$_1$	analy'sert$_1$	*to analyse*
i.	balan'sĕre$_1$	balan'serte$_1$	balan'sert$_1$	*to balance*

(30) Preterite and past perfect: Strong verbs

	Infinitive	Preterite	Past perfect	Gloss (INF)
a.	'sove$_2$	'sov$_1$	'sov$_1$	*to sleep*
b.	'le$_1$	'lo$_1$	'ledd$_1$	*to laugh*
c.	'drikke$_2$	'drakk$_1$	'drukket$_2$	*to drink*
d.	'skrive$_2$	'skrev$_1$	'skrevet$_2$	*to write*
e.	'henge$_2$	'hang$_1$	'hengt$_1$	*to hang*

As can be seen by the two lists, there is almost always a correspondence between monosyllabic Accent-1 forms, and disyllabic Accent-2 forms. Once again, the only verbs that dance out of tune are the loans in (29h) and (29i). Although their past perfect forms have final

stress, we know from the infinitive, the present, and now the preterite forms that they must be lexically specified, which explains why they always have Accent 1 in all forms. The differentiation between weak and strong verbs in (29) and (30), respectively, does not appear to entail tonal differences – the accent of a form again follows from the number of syllables it possesses.

2.2.4. Analysis of participles (present and past)

Another area of verb inflection is the participles. Standard East Norwegian has a present participle suffix {-ende} and a past participle form that is identical to the past perfect. As can be seen by the pattern of the following verbs, our analysis can also effortlessly account for accent assignment in the participles.

(31) Present and past participles: Weak verbs

	Infinitive	Present participle	Past participle	Gloss (INF)
a.	'se	'seende$_2$	'sett$_1$	*to see*
b.	'kaste$_2$	'kastende$_2$	'kastet$_2$/'kasta$_2$	*to throw*
c.	'reise$_2$	'reisende$_2$	'reist$_1$	*to travel*
d.	'leve$_2$	'levende$_2$	'levd$_1$	*to live*
e.	'smøre$_2$	'smørende$_2$	'smurt$_1$	*to grease*
f.	'selge$_2$	'selgende$_2$	'solgt$_1$	*to sell*
g.	'spørre$_2$	'spørrende$_2$	'spurt$_1$	*to ask*
h.	analy'sĕre$_1$	analy'serende$_1$	analy'sert$_1$	*to analyse*
i.	balan'sĕre$_1$	balan'serende$_1$	balan'sert$_1$	*to balance*

(32) Present and past participles: Strong verbs

	Infinitive	Present participle	Past participle	Gloss (INF)
a.	'sove$_2$	'sovende$_2$	'sov$_1$	*to sleep*
b.	'le$_1$	'leende$_2$	'ledd$_1$	*to laugh*
c.	'drikke$_2$	'drikkende$_2$	'drukket$_2$	*to drink*
d.	'skrive$_2$	'skrivende$_2$	'skrevet$_2$	*to write*
e.	'henge$_2$	'hengende$_2$	'hengt$_1$	*to hang*

Accent assignment for these participles is quite transparent. Regarding the present participles for both weak and strong verbs, all are polysyllabic with Accent 2, except for the two lexically specified verbs in (31h) and (31i). Here the lexical specification of these loans

persists in the participles as well. Since the past participle is identical to the past perfect form, we refer back to our analysis of the past perfect given in (29) and (30) and repeat that there are no surprises here. Accent assignment follows our rules to a tee. All monosyllabic forms have Accent 1 (cf. (31a, c-g) and (32a,b,e)) and all unspecified polysyllabic forms have Accent 2 (cf. (31b) and (32c,d). The two lexically specified verb stems in (31h) and (31i) have Accent 1, regardless of syllable count, or whether they contain a disyllabic trochee. Finally we can conclude that there is no difference between weak and strong verbs concerning tonal accent.

In our analysis of monomorphemic verbs and verbal inflection, we have seen that lexically specified verbs undeniably have Accent 1 with any and every inflectional suffix, e.g. in the imperative (*analy'sĕr*$_{\mathbf{1}}$), infinitive (*analy'sĕre*$_{\mathbf{1}}$), present (*analy'sĕrer*$_{\mathbf{1}}$), preterite (*analy'sĕrte*$_{\mathbf{1}}$), perfect (*analy'sĕrt*$_{\mathbf{1}}$), present participle (*analy'sĕrende*$_{\mathbf{1}}$) and past participle (*analy'sĕrt*$_{\mathbf{1}}$). For the unspecified verbs, just as for the unspecified nouns, the rule has been that if they contain a disyllabic trochee after affixation, they have default Accent 2. Only monosyllabic forms and forms containing lexical specification have Accent 1. None of these inflections need be lexically specified.

Let us now see how our analysis can handle accent assignment and inflected and uninflected adjectives in the next section.

2.3. Adjective inflection

2.3.1. Analysis of adjective agreement markers (indefinite and definite)

Most monomorphemic adjectives in Norwegian are also monosyllabic. Adjectives take agreement markers in the indefinite and definite declensions. In the indefinite singular, only the neuter has an agreement marker which is {-t} as, for example, in *et stor-t skip* ‘a large ship’. Since this marker has no influence on accent assignment, it is therefore of no further interest to us here. The indefinite plural, definite singular and plural, however, have an agreement marker {-e}, as illustrated below for the adjective *stor* ‘big’.

(33) Adjective agreement markers (indefinite and definite)

		NEUTER	Gloss	COMMON GENDER	Gloss
a.	INDEF. PL.	stor-e skip	*big ships*	stor-e biler	*big cars*
b.	DEF. SING.	det stor-e skipet	*the big ship*	den stor-e bilen	*the big car*
c.	DEF. PL.	de stor-e skipene	*the big ships*	de stor-e bilene	*the big cars*

These homophonic agreement markers also have the same tonal properties, as we show in the following examples. In (34a-e), we see that the addition of the indefinite marker to monosyllabic adjectives produces disyllabic trochees that have default Accent 2.

(34) Adjective inflection: monosyllables (indefinite and definite)

	Indefinite singular	Indefinite plural/ definite sing. & plur.	Gloss
a.	'flott$_1$	'flotte$_2$	*splendid*
b.	'trygg$_1$	'trygge$_2$	*safe*
c.	'ung$_1$	'unge$_2$	*young*
d.	'stor$_1$	'store$_2$	*big*
e.	'god$_1$	'gode$_2$	*good*
f.	'mager$_1$	'magre$_2$	*lean*

Considering (34f), it is obvious that, although disyllabic on the surface, '*mager*$_1$ must also be underlyingly monosyllabic /magr/, because it is Accent 1 in the singular, and Accent 2 when a syllable such as the agreement marker is added. In our approach, we have seen similar cases with epenthesis taking place after accent assignment in the singular, as in (5e) '*vinter*$_1$ 'winter' discussed in section 1.2. Here we saw that the unspecified /vintr/ '*vinter*$_1$ had Accent 2 after the regular plural suffix was added ('*vintrer*$_2$ 'winters'). According to the examples now in (34), the addition of the agreement marker could be equated with the addition of the regular plural suffix regarding accent assignment. Both appear to be unmarked syllabic suffixes that produce Accent-2 forms when added to monosyllables ('*magre*$_2$, '*flotte*$_2$). The next examples involve Accent-2 polysyllabic adjectives.

(35) Adjective inflection: Accent-2 polysyllables (indefinite and definite)

	Indefinite singular	Indefinite plural/ definite sing. & plur.	Gloss
a.	gammel$_2$	'gamle$_2$	*old*
b.	'morsom$_2$	'morsomme$_2$	*funny*
c.	'fremmed$_2$	'fremmede$_2$	*strange*

Native polysyllabic monomorphemic adjectives are difficult to find in Standard East Norwegian, thus, we have included the complex form {mor}{som}, which behaves here just as (35a,c). These polysyllables in (35) conceal no surprises. They are all Accent 2 and remain Accent 2 with the addition of the agreement marker {-e}. Thus, we conclude that neither the stems nor the agreement marker bear lexical accent.

The following examples of polysyllables in (36) have final stress in the indefinite singular and therefore inevitably Accent 1, which persists even with the addition of the {-e} in column two. We, therefore, assume that these adjectives, borrowed from French and Latin, are lexically specified for Accent 1 (/sŏlid/, /ăbsurd/, /sjălu/). More evidence for this assumption will be provided shortly when we discuss the superlative forms of these adjectives. Note, that the last example *sja*'*lu*$_1$ 'jealous' in (36c), also originally a French loan, does not take an agreement marker at all, and thus remains Accent 1 throughout, either because of lexical specification, or because of final stress and the Disyllabic Trochee Rule. It is difficult indeed to prove one hypothesis or the other to be correct since this adjective never takes any kind of inflectional ending.

(36) Adjective inflection: Accent-1 polysyllables (indefinite and definite)

	Indefinite singular	Indefinite plural/ definite sing. & plur.	Gloss
a.	so'lid$_1$	so'lide$_1$	*solid*
b.	ab'surd$_1$	ab'surde$_1$	*absurd*
c.	sja'lu$_1$	sja'lu$_1$	*jealous*

After having examined mono- and polysyllabic adjectives, our claim is that the adjective agreement marker {-e} is unspecified for accent. Let us proceed to the comparative and superlative forms of these adjectives to see if we have missed any details about the adjectives themselves, and whether we need lexical specifications to account for adjective inflection after all.

2.3.2. Analysis of comparative and superlative forms (indefinite and definite)

We start our consideration of accent assignment and the comparative and superlative with the following examples.

(37) Adjective inflection: Positive, comparative, superlative

	Positive	Comparative	Superlative	Gloss
a.	'flott$_1$	'flottere$_2$	flottest$_1$	*splendid*
b.	'trygg$_1$	'tryggere$_2$	'tryggest$_1$	*safe*
c.	'ung$_1$	'yngre$_1$	'yngst$_1$	*young*
d.	'stor$_1$	'større$_1$	'størst$_1$	*big*
e.	'god$_1$	'bedre$_1$	'best$_1$	*good*
f.	gammel$_2$	'eldre$_1$	'eldst$_1$	*old*[47]
g.	'mager$_1$	'magrere$_2$	'magrest$_1$	*lean*
h.	'moden$_2$	'modnere$_2$	'modnest$_1$	*ripe*
i.	'fremmed$_2$	mer fremmed$_2$	mest fremmed$_2$	*strange*
j.	so'lid$_1$	so'lidere$_1$	so'lidest$_1$	*solid*
k.	ab'surd$_1$	ab'surdere$_1$	ab'surdest$_1$	*absurd*
l.	sja'lu$_1$	mer sja'lu$_1$	mest sja'lu$_1$	*jealous*

In the examples in (37), we see that in the second column the comparative suffix {-ere} is added to the monosyllables (37a,b) producing trisyllables with Accent 2, which speaks for no lexical specification of the stem or suffix. In the next two examples (37c,d), monosyllables undergo umlauting of the stem vowel plus the addition of a {-re} suffix resulting in Accent-1 disyllables. This reminds us of the umlauted plural which, as we saw in (5), is lexically specified for causing umlaut of the stem vowel and bearing Accent 1. The comparative and superlative forms of the next examples '*god*$_1$ 'good' (37e) and '*gammel*$_2$ 'old' (37f) look like forms that would be very difficult for a language learner. They seem to have idiosyncratic forms that all take Accent 1, i.e., '*bedre*$_1$, '*best*$_1$ (37e), '*eldre*$_1$, '*eldst*$_1$ (37f). It would be no wonder if such idiosyncratic forms must be stored in the lexicon. Diachronically these are suppletive forms, as in English (*better, best*), German (*besser, beste*) and Dutch (*beter, best*), that only occur in the comparative and superlative. The position of the lacking positive form was filled by an unrelated adjective that was only found in the positive, i.e., *god*, *gammel* (cf.

47. In spoken Norwegian, one can also encounter '*gamlere*, '*gamlest* (Faarlund et.al. 1997:353).

Noreen 1970:§440 (301)).[48] They could, however, also have Accent 1 because they are underlyingly monosyllabic. According to Oftedal (1952), Old Scandinavian had monosyllabic comparatives of adverbs such as *lengr* 'longer', *verr* 'worse', *betr* 'better'. Since they ended in two consonants, at one point an epenthetic vowel was inserted, and they became disyllabic yet remained Accent 1. We must wait to see how these forms fare with an additional syllable in the definite superlative in (38) to be certain of whether they are lexically specified or monosyllabic.

The next examples '*mager*$_1$ 'lean' and '*moden*$_2$ 'ripe' in (37g,h) once again take the comparative {-ere} suffix, as did (37a,b), producing an Accent-2 form out of the monosyllabic /magr/, i.e., '*magrere*$_2$ 'leaner', and retaining Accent 2 in '*modnere*$_2$ 'riper'. In (37i) '*fremmed*$_2$, we have an example of a polysyllabic adjective that has periphrastic forms in the comparative and superlative, a phenomenon often found in Germanic languages. These periphrastic forms are constructed with *mer* 'more' + adjective and *mest* 'most' + adjective in the comparative and superlative, respectively. The accent of these forms does not differ from that of the positive. This applies to the last example as well, *sja'lu*$_1$ in (37l), which either complies with the Disyllabic Trochee Rule, or has Accent 1 because it is lexically specified.[49] We prefer the latter explanation, although we have no proof up to now. For examples (37j) and (37k), however, we do have proof. These two also have final stress in the positive, yet, not in the comparative and superlative forms. Here they both have disyllabic troches and still Accent 1, therefore must have lexically specified stems, i.e., */šolid/, /ăbsurd/*, since these inflectional suffixes also appear in Accent-2 forms, and thus cannot be lexically specified.

Summarising the facts, we would posit that there are two allomorphs of the comparative suffix: unspecified {-ere} and prespecified {-ĕre}. Note, that this analysis runs parallel to our analysis for the indefinite plural, for which we assumed an unspecified suffix {-er}, and a lexically specified umlauting suffix {-ĕr}. Here too in the comparative, we posit that the more common suffix {-ere} is unmarked for accent. Its influence on the stem is just as if two additional syllables are added. This suffix is found in examples (37a,b,g,h,j,k). The accent of

48. Norwegian has 2 positive adjectives denoting 'good', *god* and *bra.* Although *bra* appears to be phonologically similar to *bedre* and *best*, it is a loanword from French (*brave*). The other positive form *god* comes from ON *goðr.*

49. The adjective *sja'lu*$_1$ can also have the forms *sja'luere*$_1$ 'more jealous', *sja'luest*$_1$ 'most jealous' for some speakers. This shows that they are indeed lexically specified.

the comparative form with this suffix then depends on the stem: if the stem bears no lexical specification, then Accent 2 will be the outcome, i.e., (37a) '*flottere*$_2$ ‘more splendid’, (37b) '*tryggere*$_2$ ‘safer’, (37g) '*magrere*$_2$ ‘leaner’, and (37h) '*modnere*$_2$ ‘riper’. If the stem is lexically specified, Accent 1 will be retained, i.e., (37j) *so*'*lidere*$_1$ ‘more solid’, (37k) *ab*'*surdere*$_1$ ‘more absurd’. The other comparative allomorph {-ere} is less common and lexically specified, which goes hand in hand with umlauting of the stem vowel, i.e., '*større*$_1$ ‘bigger’ in (37d). All adjectives that take this comparative suffix will have Accent 1 (e.g. '*ung*$_1$, '*yngre*$_1$, '*yngst*$_1$ ‘young, younger, youngest’). The remaining polysyllabic comparatives are idiosyncratic and will also have to be lexically specified, i.e., '*bědre*$_1$ ‘better’ in (37e) and *ěldre*$_1$ ‘older’ in (37f).

The superlatives, listed in the third column of (37), all have Accent 1, excluding the periphrastic form *mest* '*fremmed*$_2$ ‘most strange/strangest’ in (37i). Therefore, two possibilities present themselves. On the one hand, the superlative suffix could be {-st} with an epenthetic vowel after accent assignment. On the other hand, the superlative suffix could also be lexically specified {-st}, thus affecting that all forms with this suffix will have Accent 1. The evidence is insufficient to choose one analysis over the other at the moment, but we will be able to motivate why we think the superlative suffix is lexically specified {-st} after discussing polysyllabic nouns following (38). The last suffix we will now explore concerning adjectives and inflection, is the definite superlative suffix {-ste}, e.g. in *den stør-ste bilen* ‘the biggest car’, listed in column three below.

(38) Adjective inflection: The indefinite and definite superlative

	Positive	Indefinite superlative	Definite superlative	Gloss
a.	'flott$_1$	'flottest$_1$	'flotteste$_2$	*splendid*
b.	'trygg$_1$	'tryggest$_1$	'tryggeste$_2$	*safe*
c.	'ung$_1$	'yngst$_1$	'yngste$_2$	*young*
d.	'stor$_1$	'størst$_1$	'største$_2$	*big*
e.	'god$_1$	'best$_1$	'beste$_2$	*good*
f.	gammel$_2$	'eldst$_1$	'eldste$_2$	*old*
g.	'mager$_1$	'magrest$_1$	'magreste$_2$	*lean*
h.	'moden$_2$	'modnest$_1$	'modneste$_2$	*ripe*
i.	'fremmed$_2$	mest 'fremmed$_2$	mest 'fremmede$_2$	*strange*
j.	so'lid$_1$	so'lidest$_1$	so'lideste$_1$	*solid*
k.	ab'surd$_1$	ab'surdest$_1$	ab'surdeste$_1$	*absurd*
l.	sja'lu$_1$	mest sja'lu$_1$	mest sja'lu$_1$	*jealous*

The definite superlative suffix {-(e)ste} is added to the adjectives in the third column of (38), once again producing polysyllabic Accent-2 forms with lexically unspecified stems (38a-i). Thus, we have different behaviour for the indefinite and definite superlatives. If we consider polymorphemic forms like we saw in Kristoffersen (2000), e.g. *heder*$_{\mathbf{1}}$ 'honor', '*hederlig*$_{\mathbf{2}}$ 'honest', '*hederligst*$_{\mathbf{1}}$ 'most honest', '*hederligste*$_{\mathbf{2}}$ 'most honest$_{\text{DEF}}$' or also '*morsom*$_{\mathbf{2}}$ 'funny', '*morsommere*$_{\mathbf{2}}$ 'funnier', '*morsomst*$_{\mathbf{1}}$ 'funniest', '*morsomste*$_{\mathbf{2}}$ 'funniest$_{\text{DEF}}$'. Our analysis for the superlative now should be that the indefinite superlative suffix is lexically specified, since all words containing this morpheme have Accent 1 – including these polymorphemic forms. Although '*hederlig* and '*morsom* are not monomorphemic, they are polysyllabic and have Accent 2 – except in the indefinite superlative – insinuating that they are not lexically specified. Words like '*hederligst*$_{\mathbf{1}}$ and '*morsomst*$_{\mathbf{1}}$ thus provide us with evidence that the indefinite superlative suffix {ˣ-st} is lexically specified for Accent 1, because it goes against our approach to assume that lexical accent can be deleted or overruled by default accent. Therefore, our claim is that there are two different superlative suffixes for the indefinite and definite: a lexically specified indefinite superlative suffix {ˣ-st}, and an unspecified definite suffix {-ste}. How accent assignment works with these two different suffixes is illustrated in (39) and (40).

(39) Accent assignment and the indefinite superlative[50]

	Lexical representation	>	Stress & accent assignment	>	Epenthesis	Gloss
a.	/flott/ /ˣst/	>	'flottst$_{\mathbf{1}}$	>	'flottest$_{\mathbf{1}}$	*most splendid*
b.	/magr/ /ˣst/	>	'magrst$_{\mathbf{1}}$	>	'magrest$_{\mathbf{1}}$	*leanest*
c.	/sŏlid/ /ˣst/	>	so'lidst$_{\mathbf{1}}$	>	so'lidest$_{\mathbf{1}}$	*most solid*

(40) Accent assignment and the definite superlative

	Lexical representation	>	Stress & accent assignment	>	Epenthesis	Gloss
a.	/flott/ /ste/	>	'flottste$_{\mathbf{2}}$	>	'flotteste$_{\mathbf{2}}$	*the most splendid*
b.	/magr/ /ste/	>	'magrste$_{\mathbf{2}}$	>	'magreste$_{\mathbf{2}}$	*the leanest*
c.	/sŏlid/ /ste/	>	so'lidste$_{\mathbf{1}}$	>	so'lideste$_{\mathbf{1}}$	*the most solid*

50. We assume there is epenthesis when {-st} is attached directly to the stressed syllable because of cases where there is no epenthesis '*morsomst* 'funniest'.

This analysis of the superlative suffixes will even hold up with the seemingly difficult derivations of '*heder*$_1$ 'honour', '*hederlig*$_2$ 'honest', '*hederligst*$_1$ 'most honest', '*hederligste*$_2$ 'most honest$_{\text{DEFINITE}}$', which lead Kristoffersen (2000) to classify the superlative suffix as "accent deleting", however, only under special circumstances (2000:260f).

(41) Derivation of '*hederligst*$_1$ and '*hederligste*$_2$

	Lexical representation		Stress & accent assignment		Epenthesis	Gloss
a.	/hedr/	>	'hedr$_1$	>	'heder$_1$	*honour*
b.	/hedr/ /lig/$_2$	>	'hedrlig$_2$	>	'hederlig$_2$	*honest*
c.	/hedr/ /lig/ /ʂt/	>	'hedrligst$_1$	>	'hederligst$_1$	*most honest*
d.	/hedr/ /lig//ste/	>	'hedrligste$_2$	>	'hederligste$_2$	*most honest* (DEF)

We are not totally satisfied with this analysis. The opposition of non-syllabic {-st} vs. syllabic {-ste} awakes the suspicion that we are dealing with differences in foot structure and not lexical specification. However, we have to postpone looking deeper into this issue for future research.

2.4. Summary: Inflection and accent assignment

We now summarise what must be added to our initial assumptions on accent assignment in Standard East Norwegian to accommodate not only simplex words, but also inflectional morphemes in the following. First we repeat our assumptions from (4) in (42).

(42) Lexical and default accent (repeated from (4))

a. Lexical Accent 1 always dominates.

b. Default accent assignment (if no lexical specification):
   i. $[\ldots\ '\sigma\ \sigma\ \ldots]_{\omega}$ → Accent 2
   ii. $[\ldots\ '\sigma\ ]_{\omega}$ → Accent 1

To account for inflectional morphology, we propose the following:

(43) Lexical specification of inflectional morphemes

a. Unspecified nominal, verbal and adjectival suffixes:

indefinite plural markers for nouns:	{-er} ({-Ø} or {-e})
infinitival ending:	{-e} ({-Ø})
present tense suffixes:	{-er}/{-r};
past tense suffixes:	{-dde},{-et/-a}, {-te}, {-de}/{-Ø}
participle ending:	{-ende}
comparative suffix:	{-ere}
definite superlative suffix:	{-ste}

b. Lexically specified morphemes:

indefinite umlauting plural:	{¨-ĕr}
comparative umlauting suffix:	{¨-ĕre}
idiosyncratic comparatives:	{bĕdre},{ĕldre} etc.
indefinite superlative suffix:	{ˣ-st}

c. Enclitics that do not affect accent assignment:

Definite singular neuter marker:	{=et}
Definite singular common gender marker:	{=en}
Definite plural:	{=ne}

3. Derivational morphology and accent assignment

In this section, we will consider the interaction of accent assignment and derivational morphology. The previous sections have shown that accent assignment for inflection is regular and can easily be accounted for with our approach: in the most common cases monosyllables receive Accent 1, and polysyllables Accent 2, whereas in irregular cases, either a stem or an inflectional affix is prespecified for Accent 1, and definite endings are outside the scope of accent assignment. We now move on to consider how derivational affixes affect accent assignment, and test whether our approach can also account for accent assignment here. We will start with stressed and unstressed prefixes, consulting Swedish for comparison, and to assure that our approach is keeping the total picture of Scandinavian tonal accent in mind.

3.1. Stressed and unstressed prefixes

All approaches claiming that Accent 2 is lexically specified must equip the infinitive suffix with lexical specification for inducing Accent 2. The following examples illustrate why these proposals need to specify the infinitive marker.

(44) Standard East Norwegian infinitives (monomorphemic stems)

	Imperatives	Infinitives		Gloss (IMP/ INF)
		Accent 1	Accent 2	
a.	'hold$_1$		'holde$_2$	*tolerate!/ to tolerate*
b.	'vis$_1$		'vise$_2$	*show!/ to show*
c.	'tenk$_1$		'tenke$_2$	*think/ to think*
d.	'ankre$_2$		'ankre$_2$	*anchor!/ to anchor*
e.	'bedre$_2$		'bedre$_2$	*better!/ to better*
f.	'legg$_1$		'legge$_2$	*put!/ to place*
g.	'stift$_1$		'stifte$_2$	*establish!/ to establish*
h.	analy'ser$_1$	analy'sere$_1$		*analyse!/ to analyse*

Almost all infinitives have Accent 2 (44a-g). In fact, all infinitives formed with monosyllabic stems have Accent 2. Only borrowed verbs with the stressed verbal suffix {-er} deviate from the norm, e.g. *analy'sere* in (44h). As we saw in Chapter 2, previous analyses for Scandinavian accent assignment propose that this regularity – that most infinitives have Accent 2 – must be attributed to the infinitive suffix. They therefore specify this suffix for inducing what they see as lexical Accent 2 to account for the general change from monosyllabic Accent 1 to Accent 2. Consequently, they assign default accent to the few exceptional prefixed or suffixed infinitives that have Accent 1. Defaults, as we apply the term, follow regular patterns and do not have to be stored in the lexicon. Nevertheless, with the next set of examples, we demonstrate what happens when these Accent-2 infinitives are prefixed. By prefixes we refer not only to genuine prefixes, which cannot stand on their own (e.g. {be-}, {unn-}, {van-}), but likewise to prefixes or particles which also can be found as independent words, namely prepositions or adverbs (e.g. *med* 'with', *mot* 'against', *ned* 'down', *opp* 'up', *ut* 'out').

(45) Standard East Norwegian infinitives (monomorphemic stems)

	Lexical representation	Imperatives	Infinitives		Gloss (INF)
			Accent 1	Accent 2	
a.	/be//hold//e/	be'hold$_1$	be'holde$_1$		*to keep*
b.	/be//vis//e/	be'vis$_1$	be'vise$_1$		*to prove*
c.	/be//tenk//e/	be'tenk$_1$	be'tenke$_1$		*to consider*
d.	/for/ankr//e/	for'ankre$_1$	for'ankre$_1$		*to anchor*
e.	/for//bedr//e/	for'bedre$_1$	for'bedre$_1$		*to improve*
f.	/an//legg//e/	'anlegg$_1$	'anlegge$_1$		*to construct*
g.	/an//stift//e/	'anstift$_1$	'anstifte$_1$		*to instigate*

Prefixed verbs such as these, we claim are the oddity and should not be given default accent since they do not follow the rules. Notice that the same infinitive verbs listed in (44) now contain a prefix in (45), and every single one has gone from Accent 2 in (44) to Accent 1 in (45). Even all imperatives including (45d,e) now have Accent 1. All else being equal, it must be the prefixes causing the accent change here and not the infinitive suffix, since these are still infinitives, but they no longer have Accent 2. Approaches that assign Accent-2 inducing capacities to the infinitive suffix {-e} all have to produce a repair strategy to explain why the infinitive suffix fails to induce Accent 2 with prefixed verbs, and suddenly changes to what they claim is the default accent.

Withgott & Halvorsen (1984, 1988) are the only ones who appear to have noticed the dominance of Accent 1 until now. They realised that Accent 2 cannot be doing all the work, and that some morphemes must have Accent-1 inducing properties as well. Therefore, they ended up specifying both Accent 1 and Accent 2 on morphemes. Our approach, however, is privative and founded on the oddities of Accent 1 and the normalities and regular patterns of Accent 2. Let us now compare Central Swedish to Standard East Norwegian to get a better sense of what needs to be considered regular and what irregular.

3.1.1. Swedish and Norwegian verbal prefixes in comparison

Verbs with unstressed prefixes bear Accent 1 in the infinitive and all other tenses in both Central Swedish and Standard East Norwegian. There are no exceptions. In fact, all words with these unstressed prefixes have Accent 1, even nouns and adjectives (e.g. *for*'*bedring*$_1$ ‘improvement’, *be*'*viselig*$_1$ ‘provable’). For illustration, a few examples of prefixed infinitives are given in (46).

(46) Unstressed prefixes in Swedish and Norwegian

Central Swedish	East Norwegian	Gloss
be'hålla$_1$	be'holde$_1$	*to keep*
be'visa$_1$	be'vise$_1$	*to prove*
be'tänka$_1$	be'tenke$_1$	*to consider*
för'ankra$_1$	for'ankre$_1$	*to anchor*
för'bättra$_1$	for'bedre$_1$	*to improve*

The Accent 1 of these prefixed infinitives in (46) could possibly be attributed to the fact that all first syllables are unstressed. Kristoffersen (2000) tries to catch this generalisation in his Tonal-Foot-Left Constraint (Chapter 2, (27)), and Riad (2003b) with his Two-Morpheme Constraint (Chapter 2, (42)). For Kristoffersen (2000) and Riad (2003b), words with Accent 2 regularly have stress on the initial syllable. However, many words ending in schwa, such as *ven'ninne*$_2$ 'girl friend', *prin'sesse*$_2$ 'princess', *pa'rade*$_2$ 'parade', *fa'sade*$_2$ 'façade', *bri'gade*$_2$ 'brigade', *ba'lade*$_2$ 'ballad', etc., do not comply with this generalisation. Therefore, all facts taken into consideration, we deduce that it is not the position of stress causing Accent 1 – or rather hindering Accent 2. It is the lexical specification of the unstressed prefixes, which were all borrowed from MLG, causing lexically specified Accent 1 in these words in both Standard East Norwegian and Central Swedish. The unstressed prefixes {be^{x}-}, {for^{x}-/för^{x}-}, and the less common {er^{x}-}, {ge^{x}-},{ent^{x}-}, induce lexical Accent 1 on all their derivations. Prefixes bearing main stress, however, exhibit diverging patterns as can be seen below.

(47) Stressed verbal prefixes in Swedish and Norwegian

Swedish	Norwegian	Gloss
'anhålla$_2$	'anholde$_1$	*to arrest*
'avvisa$_2$	'avvise$_1$	*to refuse*
'medföra$_2$	'medføre$_1$	*to bring with one*
'uppfinna$_2$	'oppfinne$_1$	*to invent*
'utforska$_2$	'utforske$_1$	*to examine*
'utbetala$_2$	'utbetale$_1$	*to disburse*
'omfamna$_2$	'omfavne$_1$	*to embrace*
'påtala$_2$	'påtale$_1$	*to criticize*
'motstå$_2$	'motstå$_1$	*to resist*

In this sample of prefixed infinitive verbs, it becomes evident that in Central Swedish and Standard East Norwegian – although they are in accord concerning the accent of unstressed prefixes (cf. (46)) – they differ in the accent assignment of verbs with stressed prefixes. We should mention that although we refer to these prefixes as "stressed prefixes", this is more the result than the cause. Stressed prefixes in Scandinavian and in Germanic languages in general are non-cohering, i.e., constitute their own prosodic word. They make up a prosodic word on their own, and thus behave like first elements of compounds that receive main stress. Therefore, we refer to these prefixes as stressed to set them apart from the unstressed prefixes, which we believe are lexically specified for not being able to bear stress. In Swedish, all compounds have Accent 2, as do all words with stressed prefixes. Therefore, we posit that Central Swedish must have a compound rule similar to the one given in (48) below.

(48) Central Swedish compound rule

['ω ω] → Accent 2

The Central Swedish compound rule, which also applies to Standard Eastern Norwegian and Southern Swedish, but not as generally here, states that if we have a complex word consisting of two prosodic words with main stress on the first word (which follows from compound stress assignment), the outcome is always Accent 2, irrelevant of any lexical specification of the individual words. We discuss this rule in more detail when we examine Norwegian and Swedish compounds in Chapter 4. The following summarises our analysis of complex verbs in Central Swedish.

(49) Analysis of complex verbs in Central Swedish

	Prefix	Complex verb	Accent	Gloss
a.	Stressed			
	{an}	$[\{an\}]_{\omega}$ $[\{hålla\}]_{\omega}$	Compound Accent 2	*to arrest*
	{ut}	$[\{ut\}]_{\omega}$ $[\{forska\}]_{\omega}$	Compound Accent 2	*to examine*
	{ut}	$[\{ut\}]_{\omega}$ $[\{be\}\{tala\}]_{\omega}$	Compound Accent 2	*to disburse*
b.	Unstressed			
	{bĕˇ}	$[\{bĕˇ\}$ {'tänka}$]_{\omega}$	Lexical Accent 1 dominates	*to consider*
	{förˇ}	$[\{förˇ\}\{'bättra\}]_{\omega}$	Lexical Accent 1 dominates	*to improve*

The derivations in (49a) follow the compound accent rule, since they all contain stressed prefixes, and thus are made up of two prosodic words ([an]$_{\omega}$ [hålla]$_{\omega}$; [ut]$_{\omega}$ [forska]$_{\omega}$; [ut]$_{\omega}$ [{be}{tala}]$_{\omega}$) and all receive compound Accent 2. The examples in (49b) do not consist of two prosodic words, since they contain unstressed prefixes; therefore, these words are subject to regular accent assignment rules for a single prosodic word. As in Standard East Norwegian, if there is a lexically specified element, the derivation will have Accent 1 in Central Swedish, i.e., [{be$\check{}$}{'tänka}]$_{\omega}$ > *be'tänka*$_{\mathbf{1}}$; [{för$\check{}$}{'bättra}]$_{\omega}$ > *för'bättra*$_{\mathbf{1}}$.

3.1.2. Analysis of verbal prefixes in Norwegian

Compound accent assignment in Standard East Norwegian is sensitive to the accent of the first constituent. First constituents bear main stress as do the stressed prefixes we saw in the examples in (47). These stressed prefixes are very consistent in retaining their accent. All verbal derivations with these stressed prefixes have Accent 1, thus our claim is that these too are lexically specified – along with the unstressed prefixes (cf. (46)). However, they are only lexically specified for bearing Accent 1, and only indirectly for bearing stress, since they consist of a prosodic word on their own. Accent assignment for verbal prefixes in Standard East Norwegian we envision to function as follows.

(50) Lexical specification of verbal prefixes in Standard East Norwegian

	Lexical representation	Stress & accent assignment			Gloss
a.	/bĕ //tenk//e/	be'tĕnke	>	be'tenke$_{\mathbf{1}}$	*to consider*
b.	/fo$\check{r}$ //bedr//e/	for'bĕdre	>	for'bedre$_{\mathbf{1}}$	*to improve*
c.	/ăn//legg//e/	'ănlegge	>	'anlegge$_{\mathbf{1}}$	*to construct*
d.	/ăv//vis//e/	'ăvvise	>	'avvise$_{\mathbf{1}}$	*to refuse*
e.	/mĕd//før//e/	'mĕdføre	>	'medføre$_{\mathbf{1}}$	*to bring*
f.	/ŏpp//finn//e/	'ŏppfinne	>	'oppfinne$_{\mathbf{1}}$	*to invent*
g.	/ŭt//forsk//e/	'ŭtforske	>	'utforske$_{\mathbf{1}}$	*to examine*
h.	/ŭt//be$\check{}$//tal//e/	'ŭtbetale	>	'utbetale$_{\mathbf{1}}$	*to disburse*
i.	/ŏm//favn//e/	'ŏmfavne	>	'omfavne$_{\mathbf{1}}$	*to embrace*
j.	/p̆å//tale//e/	'p̆åtale	>	'påtale$_{\mathbf{1}}$	*to criticize*
k.	/mŏt//stå/	'mŏtstå	>	'motstå$_{\mathbf{1}}$	*to resist*

Just as we have seen with other lexically specified morphemes (e.g. {-ĕr}$_{[PLURAL]}$), these lexically specified stressed and unstressed prefixes induce Accent 1 on the whole derivation. A prediction that directly follows is that any derivation of these lexically marked verbs should also bear Accent 1. We will investigate this prediction below in (52). Note first, however, that although all unstressed prefixes are lexically specified, stressed prefixes can differ in accent in Standard East Norwegian. Yet, some native prefixes are unspecified in both Swedish and Norwegian and produce Accent-2 prefixed verbs as we see in the following.

(51) Stressed inherited prefixed verbs with {'mis-}, {'sam-}, {'van-}[51]

	Swedish	Norwegian	Gloss
a.	'misstyda$_2$	'mistyde$_2$	*to misinterpret*
b.	'samstämma$_2$	'samstemme$_2$	*to attune*
c.	'vanhedra$_2$	'vanhedre$_2$	*to dishonour*

These lexically unspecified prefixes are found in Accent-2 verbs in Central Swedish because they are stressed, and thus subject to the compound accent rule. In Norwegian, these few surviving native prefixes take Accent 2, since neither they, nor the verbs to which the attach are lexically specified for Accent 1. We discuss the difference between borrowed and native affixes in great detail in Chapter 5.

To sum up thus far, we have lexically specified verbal prefixes ({be-ˇ}, {for-ˇ}, {mĕd-}, {ŏm-}, {ŏpp-}, {ŭt-}, {p̆å-}, {mŏt-}) and unspecified prefixes ({mis-}, {sam-}, {van-}) in Standard East Norwegian.

3.1.3. Nominal stressed prefixes in Norwegian

As we saw in Chapter 2 (1c), some stressed prefixes differ in accent according to the syntactic category of the head, i.e., they occur in Accent-2 nominal derivations and in Accent-1 verbal derivations. These are the prefixes that Withgott & Halvorsen (1984, 1988) specify for inducing Accent 2 with nouns (e.g. {^{H}om-} '*omsorg*$_2$ ‘care’, {^{H}på-} '*påbygg*$_2$ ‘addition’) and

51. There is one additional native stressed prefix found in Scandinavian {jäm-}/{jam-/jevn-} in Swedish and Norwegian, respectively. It patterns just as all native stressed prefixes do. However, there are only two verbs left with this prefix in Norwegian, therefore we only mention it here.

Accent 1 with verbs (e.g. {^{L}om-} '*ombringe*$_{1}$ ‘to deliver’, {^{L}på-} '*påkjøre*$_{1}$ ‘to run into’). In the following, we will take a closer look at the accent of nominal stressed prefixes.

Below in (52), we present some examples with the stressed prefixes {an-}, {av-}, {med-}, {op-}, {ut-}, {um-}, {på-} and {mot-}.

(52) Nominal stressed prefixes in Standard East Norwegian

	Accent-2 nouns	Gloss	Accent-1 deverbal nouns	Gloss
a.	'andel$_{2}$	*share*	'anholdelse$_{1}$	*arrest*
b.	'avtale$_{2}$	*agreement*	'avslutning$_{1}$	*conclusion*
c.	'medvind$_{2}$	*tail wind*	'medførelse$_{1}$	*sympathy*
d.	'oppdrag$_{2}$	*mission*	'oppfinnelse$_{1}$	*invention*
e.	'utdrag$_{2}$	*excerpt*	'utforming$_{1}$	*formulation*
f.	'omsorg$_{2}$	*care*	'omfavnelse$_{1}$	*embrace*
g.	'påtale$_{2}$	*censure*	'påminning$_{1}$	*admonition*
h.	'motstand$_{2}$	*opposition*	'mottaking$_{1}$	*reception*

As can be seen in the first column of (52), nouns with these stressed prefixes and no ending all have Accent 2. Our claim is that they bear Accent 2 because, contrary to the prefixed verbs, they behave as compounds with unspecified first constituents in both Swedish and Norwegian as we will see in Chapter 5. Just to foreshadow our analysis, we, in principle, agree with Withgott & Halvorsen in that there are two allophones for these stressed prefixes. One prefix is lexically specified for Accent 1 and attaches only to verbs (e.g. {ǎn-}$_{\text{VERB}}$, {ǎv-}$_{\text{VERB}}$), as we saw in (50c,d) above. The other prefix is unspecified and attaches to nouns (e.g. {an-}$_{\text{NOUN}}$, {av-}$_{\text{NOUN}}$), as can be seen in (52a,b). It is interesting to note that all nouns with stressed prefixes in fact have Accent 2 in Swedish and Norwegian, unless they are derived from prefixed verbs as in column 3 of (52). Here these deverbal nouns are derived directly from lexically specified verbs, and thus lexical specification prevails and they all bear Accent 1. Complex derivations containing both prefixes and suffixes will be examined in section 3.2.4.

3.1.4. Summary: Prefixes and accent assignment in Swedish and Norwegian

Our investigation of accent assignment of words containing stressed and unstressed prefixes in Swedish and Norwegian gives us the following classifications.

(53) Lexical accent assignment and prefixes: Central Swedish

a. Lexically specified prefixes:
borrowed unstressed prefixes, e.g.: {be$^{\breve{}}$-}, {för$^{\breve{}}$-}, {er$^{\breve{}}$- };

b. Unspecified prefixes:
all stressed prefixes; these comply with the compound accent rule:
['ω ω] → Accent 2

(54) Lexical accent assignment and prefixes: Standard East Norwegian

a. Lexically specified prefixes:
i. borrowed unstressed prefixes, e.g.: {be$^{\breve{}}$-}, {for$^{\breve{}}$-}, {er$^{\breve{}}$- };
ii. stressed verbal prefixes, e.g.: {ăn-}$_{\text{VERB}}$, {ăv-}$_{\text{VERB}}$, {mĕd-}$_{\text{VERB}}$, {mŏt-}$_{\text{VERB}}$, {nĕd-}$_{\text{VERB}}$, {ŏm-}$_{\text{VERB}}$, {ŏpp-}$_{\text{VERB}}$, {p̆å-}$_{\text{VERB}}$, {t̆il-}$_{\text{VERB}}$, {ŭnn-}$_{\text{VERB}}$, {ŭt-}$_{\text{VERB}}$

b. Unspecified prefixes:
i. native stressed prefixes, e.g.: {mis-}, {sam-}, {van-};
ii. stressed nominal prefixes, e.g.: {an-}$_{\text{NOUN}}$, {av-}$_{\text{NOUN}}$, {med-}$_{\text{NOUN}}$, {mot-}$_{\text{NOUN}}$, {ned-}$_{\text{NOUN}}$, {*om*-}$_{\text{NOUN}}$, {opp-}$_{\text{NOUN}}$, {på-}$_{\text{NOUN}}$, {til-}$_{\text{NOUN}}$, {unn-}$_{\text{NOUN}}$, {ut-}$_{\text{NOUN}}$

In Chapter 5 we will discuss why Central Swedish and Standard East Norwegian differ in their lexical classification of prefixes, and speculate as to the diachronic development behind these differences.

3.2. Derivational suffixes

3.2.1. Assumptions: Five scenarios of derivational suffixation

Our investigations of accent assignment in Standard East Norwegian thus far have shown that suffixes can influence the accent of a complex word, depending on a few factors. We assume that there are five possible scenarios of how they can affect accent, which we will test out, starting with monosyllabic stems. After investigating the effects of derivational suffixes on the tonal accent of monosyllabic stems in section 3.2.2, we see if the observations that we make also hold true for the accent of polysyllabic stems when suffixed with the same derivational suffixes in section 3.2.3, giving a preliminary summary in 3.2.4. Finally, to ensure that we have the entire picture and to answer any questions that might still be open, we consider accent assignment in complex derivations made up of prefixes and the derivational suffixes under investigation, and give a characterization of each suffix in section 3.2.5. The five scenarios are given below.

(55) Five scenarios of derivational suffixation

(i) A derivational suffix attaches to monosyllabic stems forming a prosodic domain with the stems just like inflectional suffixes do. The outcome would be unspecified disyllabic or trisyllabic words. These unspecified polysyllabic derivations then, of course, receive default Accent 2.

(ii) A derivational suffix could also appear to consist of a syllable on the surface, but as far as accent assignment is concerned it is non-syllabic. Such suffixes will not create a disyllabic domain together with monosyllabic stems. When they attach to monosyllabic stems, the result for stress and accent assignment remains a monosyllabic word, and the only option then is Accent 1 followed by epenthesis after accent assignment.

(iii) A suffix could, furthermore, be lexically specified, thus imposing its lexical Accent 1 on any derived form.

(iv) A suffix could attach to monosyllabic stems after accent assignment, just as we saw with the definite articles (cf. (13), in 2.1.2). This extra syllable would actually be classified as an enclitic, and not affect the accent of the monosyllables in any way; thus, the result would be Accent-1 forms when it attaches to monosyllabic stems.

(v) A derivational suffix could be prosodically independent and form a prosodic word of its own. These derivational endings are often referred to as non-cohering. We would assume that such derivations behave just like compounds concerning accent assignment.

Let us start our analysis of accent assignment and derivational suffixes on the most basic level with the suffixation of monosyllabic stems. We, in fact, find proof for most of these scenarios in Standard East Norwegian, when examining derivational suffixes in the environment of a monosyllabic stem.

3.2.2. Suffixes with monosyllabic stems

To begin with our analysis, we consider the following list of derivational suffixes.

(56) Some derivational suffixes
{-bar}, {-dom}, {-er}$_{\text{NOMEN AGENTIS}}$, {-else},
{-het}, {-ig}, {-ing}, {-(i)sk}, {-lig},
{-løs}, {-sel}, {-skap}, {-som}

This list does not claim to be exhaustive. We have left out most suffixes borrowed from Romance languages and disyllabic suffixes, since the greater majority of the former are lexically specified (cf. Chapter 2, (4)), and the latter behave like compounds, as we will see in Chapter 4. However, the suffixes we chose to examine should suffice to illustrate how our approach accounts for the influence of derivational suffixes on accent assignment – without pretending to be a handbook on Norwegian morphology. The following list exemplifies what accents occur when these derivational suffixes combine with monosyllabic stems.

(57) Monosyllabic stems + derivational suffixes

	Suffix	Accent 1	Accent 2	Gloss
a.	-bar		'fruktbar$_2$	*fertile*
b.	-dom		'visdom$_2$	*wisdom*
c.	-else		'spøkelse$_2$	*ghost*
d.	-er		'fisker$_2$	*fisher*
e.	-het	'blindhet$_1$		*blindness*
f.	-ig		'gunstig$_2$	*favourable*

	Suffix	Accent 1	Accent 2	Gloss
g.	-ing		'raring$_2$	*oddball*
h.	-(i)sk	'dyrisk$_1$		*bestial*
			'nordisk$_2$	*nordic*
i.	-lig		'daglig$_2$	*daily*
j.	-løs		'rådløs$_2$	*perplexed*
k.	-som		'voldsom$_2$	*violent*
l.	-skap	'galskap$_1$		*insanity*
			'vennskap$_2$	*friendship*
m.	-sel	'trivsel$_1$		*well-being*

According to the five scenarios, we could divide these suffixes into the following groups:

- Unspecified suffixes: {-bar}, {-dom}, {-else}, {-er}, {-ig}, {-ing}, {-lig}, {-løs}, {-som}
- {-sel}, {-het}: either:
  - do not consist of a syllable underlyingly, or
  - are lexically specified for Accent 1, or
  - are enclitics, or
  - behave like compounds;
- {-(i)sk}, {-skap}: are problematic.

The suffixes in the first group we would tentatively classify under scenario (54 (i)) for unspecified suffixes. These suffixes add a syllable to their base after monosyllabic stems. They attach to monosyllabic stems and appear to form a new environment for Accent 2, since Accent 2 is the outcome (e.g. '*fruktbar*$_2$ 'fertile', '*visdom*$_2$ 'wisdom').

The two suffixes {-sel} and {-het} could belong to any of the remaining four scenarios (ii)-(iv) in (55), since they produce Accent-1 derivations when added to monosyllabic stems. We will have to proceed to see how they behave with polysyllabic stems, to be able to assess them correctly.

The suffixes {-(i)sk} and {-skap} appear to be the combination of scenarios. These derivational suffixes act as regular unspecified suffixes on the one hand, for example, when they are added to monosyllabic stems and produce Accent-2 forms (e.g. '*nordisk*$_2$ 'Nordic', '*vennskap*$_2$ 'friendship'). Yet, they also act as if they belong to one of the last four scenarios, since they also produce Accent-1 derivations (e.g. '*dyrisk*$_1$ 'bestial', '*galskap*$_1$ 'insanity'). Here

too we will have to wait for more information as to how {-(i)sk} and {-skap} combine with polysyllabic stems, before pronouncing our final analysis.

After examining accent assignment and monosyllabic stems, we can only be fairly certain that we have a group of suffixes that behave just like inflectional suffixes in that they are unspecified, since they produce Accent-2 derivations, namely {-bar}, {-dom}, {-er}, {-else}, {-ig}, {-ing}, {-lig}, {-løs}, {-som}. As for the four other scenarios, we need more evidence, thus our next step is to consider monomorphemic polysyllabic stems.

3.2.3. Suffixes with polysyllabic stems

It appears as if some suffixes prefer to attach to monosyllabic rather than to polysyllabic domains, which can be, in part, attributed to the category of the bases to which they attach and their origins. In the following, we see blanks representing affixes that do not attach to monomorphemic polysyllabic stems.

(58) Polysyllabic stems + derivational suffixes

	Suffix	Accent 1	Accent 2	Gloss
a.	-bar	'middelbar$_{1}$		*indirect*
			'åpenbar$_{2}$	*clear*
b.	-dom	'usseldom$_{1}$		*wretchedness*
			'hedendom$_{2}$	*heathendom*
c.	-else	–	–	
d.	-er	'magiker$_{1}$		*magician*
		Dram'menser$_{1}$		*person from Drammen*
e.	-het	'usselhet$_{1}$		*misery*
			'lumpenhet$_{2}$	*meanness*
f.	-ig	e'lendig$_{1}$		*miserable*
			'adelig$_{2}$	*noble*
g.	-ing	–	–	
h.	-(i)sk	i'dyllisk$_{1}$		*idyllic*
			'djevelsk$_{2}$	*devilish*
i.	-lig	na'turlig$_{1}$		*natural*
			'kvinnelig$_{2}$	*womanly*
j.	-løs	'daddelløs$_{1}$		*flawless*
			'arveløs$_{2}$	*disinherited*

	Suffix	Accent 1	Accent 2	Gloss
k.	-som	–	–	
			'arbeidsom$_{2}$	*diligent*
l.	-skap	'adelskap$_{1}$		*nobility*
			'borgerskap$_{2}$	*citizenship*
m.	-sel	–	–	

Our analysis proposes two possibilities for the suffixes that appeared to be lexically unspecified when added to monosyllabic stems, e.g. {-bar}, {-dom}, {-else}, {-er}, {-ig}, {-ing}, {-lig}, {-løs}, {-som} that we tentatively classified under scenario (55) (i). Since we know that polysyllabic stems can be either lexically specified or unspecified, we predict that unspecified derivational suffixes could show up in both lexically specified Accent-1 derivations and unspecified Accent-2 derivations. Aside from the suffixes {-else}, {-ing}, and {-som}, which we will have to put aside for the moment because they do not combine with any monomorphemic polysyllabic forms, this is indeed what we find for {-bar}, {-dom}, {-ig}, {-lig} and {-løs}. On the one hand, when these suffixes attach to lexically specified stems they result in Accent-1 forms, e.g. '*m̆iddelbar*$_{1}$ ‘indirect’, '*ŭsseldom*$_{1}$ ‘wretchedness’, *e'lĕndig* ‘miserable’, *na'tŭrlig*$_{1}$ ‘natural’, '*dăddelløs*$_{1}$ ‘flawless’. On the other hand, they make up part of Accent-2 derivations when they attach to unspecified stems, e.g. '*åpen*$_{2}$ ‘open’, '*åpenbar*$_{2}$ ‘clear’; †'*heden*$_{2}$ (obsolete) ‘heathen’, '*hedendom*$_{2}$ ‘heathendom’; '*adel*$_{1}$ ‘nobility’, '*adelig*$_{2}$ ‘noble’; '*kvinne*$_{2}$ ‘woman’, '*kvinnelig*$_{2}$ ‘womanly’; '*arve*$_{2}$ ‘to inherit’, '*arveløs*$_{2}$ ‘disinherited’. There is one discrepancy, however, in this set. The word '*adel*$_{1}$ is not Accent 1 because it has a monosyllabic stem. When it combines with {-skap} in (58l), the result is an Accent-1 form '*adelskap*$_{1}$ ‘nobility’. However, when it combines with {-ig} in (58f), it results in an Accent-2 '*adelig*$_{2}$ ‘noble’. We assume that '*adel* is lexically specified for Accent 1 because of '*adelskap*$_{1}$. Thus the suffixes {-bar}, {-dom}, {-ig}, {-lig} and {-løs} all still belong to scenario (55) (i) and the suffix {-ig} falls out because it appears to be insensitive to lexical accent here. We will return to {-ig} in section 3.2.5.

We now take a closer look at the two suffixes from (58) that appeared to belong to scenario (55) (i) when in combination with monosyllabic stems, however, that we do not find having both Accent-1 and Accent-2 derivations with polysyllabic stems. The first two suffixes {-er} and {-ing} generally attach to verbs, and since there are no polysyllabic monomorphemic verb

stems, we will not encounter Accent-2 forms of these suffixes and polysyllabic verb stems. These suffixes, however, differ in two ways. First of all, the suffix {-er} not only attaches to verbs, but can also make nouns out of place names, i.e., a person from the city of '*Drammen*$_{\mathbf{1}}$ is a *Dram'menser*$_{\mathbf{1}}$. However, these polysyllabic words appear to all have Accent 1 or are compounds. It also attaches to loans *ma'gĭkk*$_{\mathbf{1}}$ 'magic'+ {-er} > '*magĭker*$_{\mathbf{1}}$ 'magician', which also all have Accent 1. Secondly, the suffix {-ing} is strictly a deverbal nominalizing suffix, and as we have already seen, most verb stems in Standard East Norwegian are monosyllabic. If a verb stem is polysyllabic, it will be a loan and be lexically specified, or contain the lexically specified stressed verbal suffix {-ĕr}, and consequently its derivations will have lexical Accent 1, e.g. *ad'dĕre*$_{\mathbf{1}}$ 'to add' + {-ing} > *ad'dĕring* 'addition'. Nevertheless, due to the fact that {-er} and {-ing} both act as unspecified suffixes with monosyllables, rendering Accent-2 derivations, and result in Accent-1 derivations with lexically specified polysyllabic stems, we keep them both in the first group of unspecified suffixes.

We also tentatively categorised the suffix {-som} under scenario (55) (i), yet we find no Accent-1 form here in (58), because it does not attach to lexically specified stems. Thus {-som} remains under scenario (55) (i) as well, since we believe that it is lexically unspecified.

Our task is more difficult with the other two derivational suffixes that primarily make nouns out of verbs, i.e., {-else} and {-sel}. These also do not appear to attach to any monomorphemic polysyllabic stems – lexically specified or otherwise. Indeed some native derivational suffixes are claimed only to take native stems – at least at some stage of their development. Thus this restricts the domain to which these kinds of nominalizing suffixes may attach to monosyllables since native verb stems are monosyllabic. However, accent assignment of complex derivations with more than one affix might provide us with more evidence to be able to complete our categorisation in the next section.

Our two "problematic" suffixes from (57) {-(i)sk} and {-skap} are next in line. As we saw in (57) with monosyllabic stems, the suffixes {-(i)sk} and {-skap} can be found in Accent-1 or Accent-2 derivations when attached to monosyllables, and now we see the same behaviour with polysyllables, e.g. in (58h) *i'dўllisk*$_{\mathbf{1}}$ 'idyllic', '*djevelsk*$_{\mathbf{2}}$ 'devilish' *kame'rătskap*$_{\mathbf{1}}$ 'comradeship', and in (58l) '*borgerskap*$_{\mathbf{2}}$ 'citizenship'. Pertaining to our scenarios, there are basically two possibilities. Either the stems bear the lexical specification causing Accent 1 forms, or they are not specified resulting in Accent 2, regardless of whether the stems are poly-

or monosyllabic. Here the suffixes have no influence because they are unspecified for word accent. Or the suffixes have two different allomorphs, one lexically specified, and one unspecified for accent. In the former case, these suffixes must make up a prosodic word on there own since they behave just like compounds (scenario (55) (v)). In compound accent assignment, as we will see in chapter 4, monosyllabic stems can also bear lexical specification – even though they exclusively have Accent 1 when they stand on their own. In the latter case, we would assume that, like the stressed prefixes or the present tense markers, there is a diachronic explanation for the difference in accent.

Pertaining to {-(i)sk}, the most probable explanation for these differences in the accent of words containing the same derivational suffix – from a diachronic point of view – is that we are dealing with two separate suffixes. We posit that today's derivational suffix {-(i)sk} originates from two different sources: one that is native, and one that is borrowed. According to Tamm (1880), Scandinavian has had an {-isk} suffix since at least ON {-iska}. However, today most adjectives are constructed with an {-isk} that stems from MLG. It is difficult to determine whether a derivation contains the borrowed or native suffix. On the one hand, we can be fairly certain that some derived adjectives, which contain the non-syllabic {-sk}, are made with the native suffix (e.g. '*norsk*$_{\mathbf{1}}$, 'Norwegian', '*djevelsk*$_{\mathbf{2}}$ 'devilish' etc.) that we would assume is unspecified. The original vowels in the ON suffix {-iska} were lost during the ON syncope period where most unstressed vowels met their fate.[52] However, some forms must have retained the vowel since, in addition to monosyllabic Accent-1 forms ('*norsk*$_{\mathbf{1}}$), we also have Accent-2 derivations with {-isk} (e.g. '*nordisk*$_{\mathbf{2}}$ 'nordic', '*samisk*$_{\mathbf{2}}$ 'Sami'). On the other hand, we claim that the borrowed {-isk}, which was coined after the MLG suffix {-isch} ({-esch}), is lexically specified, belonging to scenario (55) (iii), as opposed to the unspecified native {-(i)sk} which belongs to scenario (55) (i). We ground this claim on the observation that most lexically specified words and morphemes are loans, an issue we will discuss in Chapter 5. Accordingly, we find two different types of behaviour concerning accent assignment and the suffix {-(i)sk}. The lexically specified suffix results in Accent-1 derivations (e.g. *dyr* + {ˣisk} > '*dyrisk*$_{\mathbf{1}}$ 'bestial'; *i'dy̌ll* + {ˣisk} > *i'dyllisk*$_{\mathbf{1}}$ 'idyllic'), and the other, unspecified suffix acts just as an additional syllable, resulting in Accent-2 derivations (e.g. *nord* + {-isk} > '*nordisk*$_{\mathbf{2}}$

52. According to Wessén (1970:6) syncope took place towards the end of the ON era, which lasted from 300–700 AD. Seip & Saltveit (1971:18) date it as lasting from the 6th century to about 800 AD.

'nordic'; *sam* + {-isk} > '*samisk*$_{\mathbf{2}}$, 'Sami'). However, it is not always transparent as to why a certain stem – often native – would take the lexically specified suffix or the unspecified suffix. We often only have tonal evidence to go by, and claim that if a stem is unspecified and the derivation containing *-isk* has Accent 1, the lexical accent emanates from the borrowed suffix {ˣisk}. If the stem is lexically marked, we can only assume that it too will take the marked suffix. Nevertheless, the derivation will have Accent 1, whether it takes the lexically specified suffix or not. Therefore, it is difficult to decipher which suffix these derivations actually have. If the derivation has Accent 2, then we maintain that we are dealing with an unspecified stem and the native unspecified {-(i)sk} suffix.

It is interesting to note that in Modern Central Swedish, *-isk* words generally have Accent-1.[53] Perhaps Standard East Norwegian represents an earlier stage and is on its way to generalizing all *-(i)sk* derivations as containing the lexically marked suffix, as Swedish presumably has.

The derivational suffix {-skap} does not have allomorphs stemming from different sources. In ON, *skap* was a word meaning 'constitution or character', and was used to form compounds. Thus foreshadowing our analysis of compounds, {-skap} could be acting like a prosodic word of its own, and we assume that monosyllables can be underlyingly specified for bearing lexical accent. Therefore, when these lexically specified monosyllables make up the first element of a compound the result will be Accent 1 for the entire compound, as in '*fǎrmor*$_{\mathbf{1}}$ 'paternal grandmother', '*fǎrskap*$_{\mathbf{1}}$ 'fatherhood' or '*gǎlfrans*$_{\mathbf{1}}$ 'madcap' and '*gǎlskap*$_{\mathbf{1}}$ 'insanity'.[54] If the first constituent is not specified, the result is Accent 2, e.g. '*trollspeil*$_{\mathbf{2}}$ 'magic mirror' and '*trollskap*$_{\mathbf{2}}$ 'witchcraft'. This applies, of course, to polysyllabic lexically specified first constituents as well (cf. (58l)). Therefore, we classify {-skap} under scenario (55) (v) as its own prosodic word – together with the disyllabic suffixes {-messig} and {-aktig} – and will explain our analysis of compounds in more detail in Chapter 4.[55]

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53. If they have Accent 2, they contain two stresses and probably fall under the compound rule, such as '*adjek,tivisk*$_{\mathbf{2}}$ 'adjectival' (more common *adjek'tivisk*$_{\mathbf{1}}$) or '*färö,isk*$_{\mathbf{2}}$ 'of the Faroe islands'.

54. Taken from the *Bokmålsordboka:* '*galfrans* stems from *gal* 'crazy' and the Christian name *Frans* a gay and lively person, a madcap. We cannot be absolutely certain of the accent of '*galfrans*, however, following the accent of other compounds '*galmannsferd*$_{\mathbf{1}}$ 'actions of a madman', '*galmannsverk*$_{\mathbf{1}}$ 'act of a madman' we can be fairly certain that it also has Accent 1.

55. There are, however, a few inconsistencies where monosyllabic words + {skap} have Accent 1 yet compounds formed with these same monosyllabic words have Accent 2, e.g. '*villskap*$_{\mathbf{1}}$ 'savagery',

Our final concern in this section is the suffix {-het}. Pertaining to monosyllabic stems in (57), we saw that {-het} does not affect the accent in any way (e.g. '*blindhet*$_1$ 'blindness'). Now we see that it likewise does not change the accent of polysyllabic stems (e.g. '*ussel*$_1$ 'wretched' '*usselhet*$_1$ 'misery'; '*lumpen*$_2$ 'mean', '*lumpenhet*$_2$ 'meanness'). Polysyllabic stems with {-het} may result in Accent-1 or Accent-2 derivations. Derivations containing {-het} always retain the accent of the stem. Therefore, {-het} cannot be lexically specified. After all, if {-het} were lexically specified, it would only be found in Accent-1 derivations. Pertaining to monosyllables, which remain Accent 1 when suffixed with {-het}, perhaps {-het} is underlyingly nonsyllabic /-ht/ with epenthesis at a later stage in the derivation, and for this reason does not influence the tonal accent of monosyllables. According to the *Bokmålsordboka*, {-het} stems from MLG. Originally, it was an independent word meaning 'manner' or 'character', but has lost its word status along the way, and is now considered to be a suffix in Scandinavian {-het} (cf. German *-heit* and Dutch *-heid*). Since it originally was a separate word, which bore secondary stress in complex words, as it apparently still does in Swedish and Norwegian according to Riad (1998a) and Kristoffersen (2000:44), the vowel is most likely not epenthetic, which rules out our /-ht/ hypothesis. The fact that {-het} does not affect the accent of the form it attaches to, is reminiscent of the definite articles. Therefore, we tentatively classify {=het} as an clitic along with the definite articles.

One characteristic often found in clitics is that they attach last, and never precede inflectional or derivational suffixes. This holds true for words with {-het} except for in a few cases where we find {-het} attached to monosyllabic stems, e.g. '*enhet*$_1$ 'unity', '*enhetlig*$_1$ 'uniform', '*frihet*$_1$ 'freedom', '*frihetlig*$_1$ 'liberal'. However, the former are modelled on High German words and the latter borrowed from MLG according to the *Bokmålsordboka.* Since {-het} or {-heit} does not have enclitic status in German and most likely did not in MLG either, such constructions will be possible when borrowed as undecomposed loanwords.

'*villmann*$_2$ 'savage', '*brorskap*$_1$ 'brotherhood', '*brordatter*$_2$ 'brother's daughter'. Once again we cannot be certain whether we are dealing with loanword interference here.

3.2.4. Preliminary summary: Accent assignment and derivational suffixes

After having taken monosyllabic and polysyllabic monomorphemic stems into consideration, we see that most of our derivational suffixes do indeed fall into four of the original five scenarios stated at the beginning. The suffixes can be categorised into the following groups:

- Unspecified suffixes: {-bar}, {-dom}, {-er}, {-ing}, {-(i)sk}, {-lig}, {-løs},{-som}
- Lexically specified: {ˣ-isk}
- Enclitic: {=het}
- Prosodic word: {-skap}
- Not yet categorised: {-else},{-ig},{-lig}, {-sel}

Our categorisation of the derivational suffixes proves to be no easy task. Due to the fact that Scandinavian has so many loanwords from other Germanic languages, it is difficult to know whether many of these complex forms actually are morphologically complex for the speaker. For example, does '*ridder*$_{\mathbf{1}}$ 'knight', which stems from MLG, have Accent 1 as a loanword in itself? Is it underlyingly monosyllabic, or does the speaker associate it with the past participle of the verb *ri*$_{\mathbf{1}}$/'*ride*$_{\mathbf{2}}$ 'to ride a horse' which is '*ridd*$_{\mathbf{1}}$ + {-er}$_{\text{NOMEN AGENTIS}}$? Just to illustrate with a brief example, how many Germanic loanwords there are in Modern Norwegian: the actual word for 'horse rider' in Norwegian is also a MLG loan '*rytter*$_{\mathbf{1}}$. This word is not in any way related the past participle '*rytt* since it comes from the verb '*ryte* 'to growl, grunt'. Both '*ridder*$_{\mathbf{1}}$ and '*rytter*$_{\mathbf{1}}$ are lexically specified. However, genuine native words containing the nomen agentis suffix {-er} plus a native monosyllabic stem have Accent 2, e.g. '*fisker*$_{\mathbf{2}}$ 'angler', '*dommer*$_{\mathbf{2}}$ 'judge, referee'. Therefore, the classification of these suffixes that we have listed thus far should not be held for being without exception. There are indeed exceptions to be found, but we are confident that there are etymological reasons for their behaviour. We will discuss loans and their influence in more detail in Chapter 5.

We now have most of our derivational suffixes classified into the different groups. The majority are unspecified fitting into scenario (55) (i), namely {-bar}, {-dom}, {-er}, {-ing}, {-(i)sk}, {-lig}, {-løs} and {-som}. One is lexically specified, belonging in scenario (55) (iii), i.e., {ˣ-isk}, and one possibly a clitic, namely {=het}, therefore belonging in scenario (55) (iv).

One suffix behaves as a prosodic word on its own {-skap}, indicating that it belongs in scenario (55) (v). We are able to fit these suffixes into categories that correspond entirely with our analysis up to now.

Our final task is to find the fitting categories for the nominalizing suffixes {-else} and {-sel} and for the adjectival suffixes {-lig}, {-ig}. To do this we consider accent assignment in complex derivations, i.e., with multiple derivational affixes.

3.2.5. The categorisation of derivational suffixes and accent assignment

To conclude our examination of derivational suffixes and accent assignment, we give a characterization of each suffix, taking complex derivations into account. However, before we do this, let us first consider the following data.

(59) Complex derivations and accent assignment

	Suffix	Accent 1	Accent 2	Gloss
a.	-bar	be'regnbar$_{\mathbf{1}}$		*calculable*
			'avtakbar$_{\mathbf{2}}$	*removable*
b.	-dom	–	–	
c.	-else	be'budelse$_{\mathbf{1}}$		*announcement*
		'anmeldelse$_{\mathbf{1}}$		*review*
d.	-er	be'drager$_{\mathbf{1}}$		*swindler*
			'anklager$_{\mathbf{2}}$	*accuser*
e.	-het	be'vissthet$_{\mathbf{1}}$		*consciousness*
		'avholdenhet$_{\mathbf{1}}$		*abstinence*
			'mislykthet$_{\mathbf{2}}$	*unsuccessfulness*
f.	-ig	(see (59))		
g.	-ing	be'lastning$_{\mathbf{1}}$		*debit*
		'avhandling$_{\mathbf{1}}$		*dissertation*
			'mishandling$_{\mathbf{2}}$	*cruelty*
		opp'lys(n)ing$_{\mathbf{1}}$/'opplysing$_{\mathbf{1}}$		*illumination*
h.	-isk	for'førerisk$_{\mathbf{1}}$		*seductive*
			'forhistorisk$_{\mathbf{2(1)}}$	*prehistoric*
i.	-lig	(see (59))		

	Suffix	Accent 1	Accent 2	Gloss
j.	-løs	be'visstløs$_1$		*unconscious*
			'untaksløs$_2$	*absolute*
k.	-skap	be'kjentskap$_1$		*acquaintance*
			'uvennskap$_2$	*enmity*
l.	-som	be'tenk$_{\text{ı}}$som$_1$		*circumspect*
		opp'finnsom$_1$		*ingenious*
			'tiltaksom$_2$	*enterprising*
m.	-sel		'påkjørsel$_2$	*crash*

For each suffix, we attempted to examine complex derivations with unstressed prefixes, stressed prefixes from a verbal source, and stressed prefixes from a nominal source. That is, our intentions were to find out how these suffixes combine with lexical Accent-1 prefixes and stressed unspecified prefixes. This task proved to be quite challenging, since the actual morphological make-up of a complex derivation is not always transparent. However, in most cases the accent of the entire derivation was able to throw light on the derivational make-up. In the following we consider each suffix individually. We start out with the (relatively) clear cases of suffixes in which the categorisation corresponds exactly to the predicted scenario. Finally, we discuss the less clear-cut cases, namely, {-ig} and {-lig}.

Most of the suffixes that fit into category (55) (i), as we would predict, never affect the accent of the complex derivation that they are in. We can say this confidently for {-else}, {-er}, {-(i)sk}, {-løs}. The suffix {-dom} does not appear in any complex derivations and therefore remains in this unspecified category for lack of any evidence to the contrary. Although its history suggests that it possibly belongs to the same category as {-skap}, i.e., scenario (55) (v), we do not have enough evidence to affirm this.

When {-bar} or any of the suffixes in scenario (55) (i) are found in complex derivations with unstressed prefixes, e.g. *be'regnbar*$_1$, the lexical specification of the unstressed prefix, in this case /be$^{\text{x}}$-/, wins out and Accent 1 is always the outcome. The stressed prefixes are not as lucid. Often the lexical specification of the prefix prevails, e.g. '*anvendbar*$_1$ ‘useable’ (< '*anvende*$_1$), yet other cases seem to defy the lexical specification. In, for example, the derivation '*utnyttbar*$_2$ ‘exploitable’, the question arises whether its internal composition comes from '*utnytte*$_1$ + {-bar}, or from {ut-} + '*nyttbar*$_2$. The accent tells us the latter; the semantics would choose the former. Bracketing paradoxes are a known phenomenon in the morphology-

phonology interface (cf. Kiparsky 1982), and the accent seems to be telling us the phonological story here. Stressed prefixes that have two allophones, one lexically specified when forming a verb, and one unspecified when forming anything else, i.e., noun or adjective, often seem to be involved in bracketing paradoxes. We believe, however, that in cases where the semantics seem to suggest that the bracketing should be for example [*utnytte*$_{\mathbf{1}}$]$_{\text{VERB}}$ + {-bar}, but the accent tells us that it should be three morphemes {ut} + {nytte} + {-bar}, all added on the same level, that the accent is indeed telling the phonological facts. We will return to this topic shortly when considering the behaviour of {-sel} and complex derivations. There are two more suffixes, which belong in the unspecified category: {-ing} and {-som}, that have a few peculiarities, therefore, we discuss them separately.

First, we consider the suffix {-ing}, which is plainly unspecified. It appears not to have any effect on accent except when it adds a syllable to monosyllabic stems, resulting in Accent 2 as we saw in (57g). However, sometimes {-ing} can be found with differing stress patterns (59g). In these complex derivations, we often find the stress on the prefix or the base (e.g. '*opplyse*$_{\mathbf{1}}$ ‘to illuminate’, '*opplysning*$_{\mathbf{1}}$/*opp*'*lysning*$_{\mathbf{1}}$ ‘illumination’). Kristoffersen (p.c.) tells us that often the difference in stress can also signify a difference in meaning. He gives the example of '*avdele*$_{\mathbf{1}}$ ‘to divide’, which has the more semantically transparent derivation '*avdeling*$_{\mathbf{1}}$ ‘the act of separating something’, and *av*'*deling*$_{\mathbf{1}}$ that means more ‘division’ as in the division of a company. Although this divergent stress patterns would have to be accounted for in the rules of Standard East Norwegian stress, we will put that aside here since our analysis is concentrating on lexical accent assignment.

Stress is also an issue with the suffix {-som}. In complex forms containing {-som}, stress is usually found on the verb stem, and seldom on the prefix ('*oppfinne*$_{\mathbf{1}}$ ‘invent’, *opp*'*finnsom*$_{\mathbf{1}}$ ‘inventive’). This is so even when there is no prefixed verbal base (e.g. *opp*'*merksom*$_{\mathbf{1}}$ ‘observant’) – unless the prefix is a nominal prefix, and thus unspecified ('*tiltaksom*$_{\mathbf{2}}$ ‘enterprising’, '*tiltak*$_{\mathbf{2}}$ ‘enterprise’) which remains default Accent 2. However, we know that nominal prefixes behave differently from verbal prefixes in Germanic languages.[56] Thus, the fact that stress also differs in complex derivations is not disturbing to our analysis. Once again

56. For example we know in English that nominal derivational suffixes attach at a different lexical level (Level 2) than verbal suffixes (Level 1) (Kiparsky 1982). This can be illustrated by the resyllabification that applies in *damnation*, where the /n/ makes up the onset of the second syllable, which does not apply to *damning*.

we believe loans play an important role, since Norwegian has modelled many of these complex derivations on German (*opp*'*merksom*$_{\mathbf{1}}$ 'observant'). Unfortunately, more investigation into the effect of stress and accent in such complex derivations would require a solid conception of how stress assignment works in Standard East Norwegian, how it functioned in MLG and High German, and the interaction between the two stress systems under borrowing – which is unfortunately not possible within the framework of this thesis. Therefore, since the accent is in any case never affected by {-ing} and {-som}, we categorise them with the unspecified suffixes.

The suffix {-sel} is our first and only candidate for belonging to scenario (55) (ii), i.e., only counts as a full syllable on the surface after accent assignment and epenthesis. Once again, the synchronic phonological facts governs the analysis. This nominalizing suffix is native, stemming from the ON suffix {-sl} or {-sla}. When suffixed to a monosyllabic word in (57m), we saw that the derivation retains Accent 1. This could indicate that {-sel} is either lexically specified for bearing Accent 1, or that it does not affect the accent of a monosyllabic stem at all. That is, accent assignment proceeds as if no additional syllable has been added. This is in fact our analysis. We claim that {-sel} is unspecified for tone, and underlyingly non-syllabic /-sl/. It receives an epenthetic vowel post-lexically after accent assignment. Historically this was indeed the case, and synchronically its behaviour shows that it is non-syllabic.

Unfortunately, as we mentioned earlier, {-sel} only takes monosyllabic verb stems as a base. Therefore, there are no {-sel} derivations with monomorphemic polysyllabic stems to test whether {-sel} does, or does not carry lexical accent. However, complex derivations consisting of more than one affix can. As we see in (59m), the derivation '*påkjørsel* 'crash' finally presents us with a word suffixed with {-sel} that contains a disyllabic trochee. We now have 'σ σ + {-sel} and get Accent 2, verifying our assumption that {-sel} is not lexically specified for Accent 1.

We posit that when {-sel} attaches to monosyllabic bases, the only possible outcome is Accent 1, because accent assignment only has a monosyllabic domain ('σ + /sl/) to work with. Epenthesis happens post-lexically, after accent assignment. In '*påkjørsel* 'crash' there is no lexical specification, yet two full syllables, thus the result is Accent 2. Here, it appears as if we have a case of a bracketing paradox, since the correct internal organisation according to the semantics would be '*påkjøre*$_{\mathbf{1}}$ 'to run into' + {-sl} with a lexically specified {p̌å}. This

derivation would have a lexically specified {p̌å} because we are dealing with a verb (cf. section 3.1.2). Yet, this lexically specified verbal prefix would incorrectly give us lexical Accent 1. Thus, the Accent 2 of '*påkjørsel*$_{\mathbf{2}}$ tells us that we are not dealing with a verbal derivation. The phonology tells us that the organisation must be {på} + {kjør} + {sl}, since the result is a noun with unspecified Accent 2. The allomorph {på} is definitely unspecified here. We claim it is unspecified, because we are forming a noun. If we were dealing with a real verbal derivation, such as '*påskjønnelse*$_{\mathbf{1}}$/'*påskjønning*$_{\mathbf{1}}$ 'acknowledgement' from the verb '*påskjønne*$_{\mathbf{1}}$ 'to acknowledge', then we indeed have [påskjønn]$_{\mathbf{1}\text{VERB}}$ + {-else}/{-ing} with the lexically specified {p̌å} allomorph. The accent and semantics confirm that we are deriving a noun from a verb. In '*påkjørsel*, we are forming a noun with three morphemes {på} {kjør} {sl}, none of which are lexically specified, since we are constructing a noun, and the result is Accent 2. This, of course, also follows for {ut-} and all other particles, e.g. '*utkjørsel*$_{\mathbf{2}}$ 'driveway', '*anførsel*$_{\mathbf{2}}$ 'command', '*avkjørsel*$_{\mathbf{2}}$ 'exit'.

Concerning scenario (55) (iii), the only lexically specified suffix out of our sample is {-̌isk}. As we mentioned in section 3.2.2, we claim that there are two {-(i)sk} suffixes. One that is specified, and one that is not specified. It is often difficult to determine which /-(i)sk/ we are dealing with when lexical accent is already present in the stem. However, our verdict holds that there are two allomorphs: One lexically specified {-̌isk} and one unspecified {-(i)sk}.

The only clitic that we can add to scenario (55) (iv) is possibly {=het}, which behaves very much like the definite articles. Clitics are added after accent assignment. Therefore, whatever the accent of the preceding form is in isolation, this will also be the accent of the entire form that includes {=het}. Accent assignment is performed and then {=het} is attached.

Scenario (55) (v) only includes the suffix {-skap} that makes up a prosodic word by itself. It acts no differently with complex derivations containing another affix + {-skap}$_{\omega}$. The morpheme {-skap}$_{\omega}$ acts just like a second member of a compound, i.e., the first member determines the accent of the entire compound, as we will see in Chapter 4.

The remaining two suffixes, {-ig} and {-lig}, which have been categorised as unspecified until now, are very puzzling, as can be seen in the following:

(60) Complex derivations and accent assignment with {-ig}{-lig}

	Suffix	Base	Accent 1	Accent 2	Gloss
a.	{-ig}		be'standig$_1$		*continuous*
		'andakt$_2$ >	an'dektig$_1$		*devout*
		'forskjell$_2$ >	for'skjellig$_1$		*different*
		'avhenge$_1$ >		'avhengig$_2$	*dependent*
b.	{-lig}		be'vislig$_1$		*natural*
		'oppbygge$_1$	opp'byggelig$_1$		*uplifting*
		'tilråde$_1$	til'rådelig$_1$		*advisable*
		'hĕder$_1$		'hederlig$_2$	*honest*

The suffixes {-ig} and {-lig} are found in complex derivations where stress is on the stem vowel, which sometimes also undergoes umlauting (e.g. '*andakt*$_2$ 'devotions' > *an*'*dektig*$_1$ 'devout'), and accent change. Most forms keep their lexical accent as in '*oppbygge*$_1$ 'to build up/to uplift' *opp*'*byggelig*$_1$ 'uplifting', however, some complex derivations with {-ig} do not (e.g. '*avhenge*$_1$ 'it depends', '*avhengig*$_2$ 'dependent'). But what is most difficult to explain is the fact that {-ig} and {-lig} are sometimes blind to lexical accent in derivations such as, '*ădelig*$_2$ 'nobel' and '*rĭdderlig*$_2$ 'knightly'. These stems both have Accent 1 in isolation and when suffixed with another prosodic word like {-skap} e.g. '*adelskap*$_1$ 'nobility', '*ridderskap*$_1$ 'knighthood'. As we illustrated with the nomen agentis {-er}, a good deal of these oddities we believe are connected with loanword incorporation. For example, a word like '*andakt*$_2$ 'devotions' was borrowed from German ('*andacht*) through Danish, and fit in with the other native nouns with stressed prefixes that recieves Accent 2. The word *an'dektig* 'devout', however, according to the *Bokmålordboka* and the *Nudansk Ordbok*, was derived from '*andakt*$_2$ and was not borrowed from German. Thus, as far as our approach is concerned, it should have Accent 2. However, German also has the form '*andächtig* with umlaut. These Germanic words are so similar it is difficult to deduce the true origins.

As to the insensitivity to lexical accent, perhaps the key lies in the second syllable of the stems. Schwa is often invisible to stress, and perhaps we are dealing with lexically specified monosyllabic stems as far as {-ig} and {-lig} are concerned. Monosyllables have a special status as we shall see in Chapter 5. Concerning {-ig} and {-lig} showing different stress patterns with prefixed forms, as already noted above with the suffixes {-ing} and {-som}, we

will not embark upon the investigation of the effect of stress and accent in complex derivations in this thesis but leave it for future research.

Given that these suffixes otherwise do not appear to affect accent, we classify {-ig} and {-lig} as unspecified under scenario (55) (i), because of their behaviour with monosyllabic and polysyllabic stems, as we saw in (57) and (58). We add to this the annotation that lexically specified disyllabic words containing a schwa in the second syllable are monosyllabic for {-ig} and {-lig}. Thus, lexical specification will not surface in derivations with these words + {-ig}/ {-lig} just as it does not surface in lexically specified monosyllabic stems + {-ig}/{-lig}.

4. Summary: Morphological processes and accent assignment

After having considered accent assignment and inflectional and derivational affixes we now return to our initial assumptions and give an overview of how our approach accommodates not only simplex words but also complex words, i.e., inflectional and derivational morphology. We start with our original assumptions below in (61).

(61) Lexical and default accent (repeated from (4))

a. Lexical Accent 1 always dominates.

b. Default accent assignment (if no lexical specification):
   i. $[\ldots\ '\sigma\ \sigma\ \ldots]_{\omega}$ → Accent 2
   ii. $[\ldots\ '\sigma\ ]_{\omega}$ → Accent 1

To account for accent assignment in affixed words we propose the following classifications:

(62) Lexical specification of inflectional and derivational morphemes

Inflectional and derivational affixes lexically specified for Accent 1:	
Indefinite umlauting plural:	{¨-ĕr}
Comparative umlauting suffix:	{¨-r̆e}
Idiosyncratic comparative, e.g.:	{bĕdre},{ĕldre}
Indefinite superlative suffix:	{ˇ-st}
Borrowed unstressed prefixes e.g.:	{beˇ-}, {forˇ-}, {erˇ- }
Stressed verbal prefixes e.g.:	{ăn-}$_{\text{VERB}}$, {ăv-}$_{\text{VERB}}$, {mĕd-}$_{\text{VERB}}$, {mŏt-}$_{\text{VERB}}$, {nĕd-}$_{\text{VERB}}$, {ŏm-}$_{\text{VERB}}$, {ŏpp-}$_{\text{VERB}}$, {p̆å-}$_{\text{VERB}}$, {f̆il-}$_{\text{VERB}}$, {ŭnn-}$_{\text{VERB}}$, {ŭt-}$_{\text{VERB}}$
Adjectival suffix:	{ˇ-isk} (in addition to unspecified {-(i)sk})

(63) Unspecified inflectional and derivational morphemes

a. Unspecified inflectional suffixes:

Indefinite plural markers for nouns:	{-er} ({-Ø} or {-e})
Infinitival ending:	{-e} ({-Ø})
Present tense suffixes:	{-er}/{-r};
Past tense suffixes:	{-dde},{-et/-a}, {-te}, {-de}/{-Ø}
Participle ending:	{-ende}
Comparative suffix:	{-ere}
Definite superlative suffix:	{-ste}

b. Unspecified derivational affixes:

native stressed prefixes:	{mis-}, {sam-}, {van-};
stressed nominal prefixes:	$\{an-\}_{NOUN}$, $\{av-\}_{NOUN}$, $\{med-\}_{NOUN}$, $\{mot-\}_{NOUN}$,$\{ned-\}_{NOUN}$, $\{om-\}_{NOUN}$, $\{opp-\}_{NOUN}$, $\{på-\}_{NOUN}$, $\{til-\}_{NOUN}$, $\{unn-\}_{NOUN}$, $\{ut-\}_{NOUN}$
unspecified derivational suffixes:	{-bar},{-dom}, {-er}, {-else}, {-ig}, {-ing}, {-(i)sk}, {-lig}, {-løs},{-sel}, $\{skap\}_{\omega}$,{-som}

c. Unspecified clitics that do not affect accent assignment:

Definite singular neuter marker:	{=et}
Definite singular common gender marker:	{=en}
Definite plural:	{=ne}
Derivational suffix:	{=het}

d. Unspecified suffixes with epenthetic vowels that do not effect accent assignment:

Nominalising suffix: {-sel} underlying representation /sl/

e. Unspecified uffixes that make up a prosodic word of their own:

Derivational suffix: $\{-skap\}_{\omega}$

Following our assumptions in (61), and the classifications we make in (62) and (63), we are able to correctly predict accent assignment for Standard East Norwegian simplex and complex words. It is all a matter of recognising whether an affix or stem is lexically specified, or not; what its prosodic make-up is (i.e., does it consist of a separate prosodic word), what its segmental make-up is (i.e., does it make up a syllable or not); whether it is a suffix or clitic; and what kind of derivation is being performed (e.g. is a noun being derived from a verb or not as we saw with '*påkjørsel*$_2$ 'crash'). This may appear to be an abundance of conditions,

however, the analyses we discussed in Chapter 2 have never tried to account for this many inflectional or derivational morphemes. In our analysis, only three inflectional suffixes must be lexically specified along with a handful of idiosyncratic comparative forms. In Accent-2 analyses, basically all inflectional suffixes consisting of a syllable have to be lexically specified for inducing Accent 2 (cf. (63a)) – except for the cases that we have specified for being lexically specified for Accent 1 (cf. (62a)). They also have to account for the behaviour of the definite articles and {-het} (cf. (63c)), which they do not classify as clitics. As for the derivational affixes, only the borrowed affixes and affixes modelled on these are lexically specified. All other affixes (cf. (63b)) appear to follow the morphological and phonological rules of Standard East Norwegian, according to their prosodic and segmental make-up. We must admit, however, that we have not yet discovered the regularities of {-ig} and {-lig}, which will prove to be problematic for all approaches, not only in Standard East Norwegian, but in other Germanic languages as well.

CHAPTER 4
COMPOUNDS AND TONES: PREVIOUS AND PRESENT ANALYSES

Accent assignment in compounds divides Scandinavian tonal languages and dialects into two camps, those that have contrasting accent, and those that only have Accent-2 compounds. In Sweden this division basically gives us a north and central vs. far-south configuration with most dialects lacking accent opposition in compounds. Southern Swedish, most Norwegian and Danish compounds, however, have accent opposition. By Danish we, of course, are referring to a stød–non-stød contrast which corresponds to the tonal Accent 1 ~ Accent 2 contrast. Norwegian dialects appear to be more on a gradient scale, with one end signifying those dialects that have tonal contrast in compounds (e.g. Oslo dialect), and at the other end are those without accent contrast (e.g. Tromsø dialect). We assume that many other dialects would then be classified somewhere in between these two extremes, i.e., dialects that have lost lexical specification in some words yet not in others to varying degrees. Ove Lorentz (p.c.) reports that in Tromsø, in the far north, this dialect exclusively has Accent-2 compounds whereas a bit further south in Narvik, compounds with monosyllabic first constituents and linking {-s} still have Accent 1. Travelling further south to Trondheim, there appear to be fewer Accent-1 compounds, than even further south in Oslo. However, these are just observations, since a comprehensive study of compound accent in Norwegian dialects – to our knowledge – has yet to be conducted.[57]

In what follows, we first lay all the critical data from Standard East Norwegian compounds out on the table in section 1. We then briefly summarise previous analyses on tonal accent and compounds in section 2. In section 3, we present our account of compound accent assignment for Standard East Norwegian, also taking a brief look at Central Swedish compounds. As we mentioned in Chapter 2, Riad (1996, 1998a) suggests that dialects with no tonal contrast in compounds represent the more original state of tonal distribution. He asserts that dialects with compounds contrasting in accent, such as Standard East Norwegian, are the innovation. We will discuss and challenge this claim in Chapter 5.

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57. See Riad (2006:40) for a very informative map of compound-accent differences in Scandinavia.

1. Standard East Norwegian compounds: The facts

Compounds in Scandinavian predominantly have main stress on the first constituent.[58] The last constituent of the compound is the head, which means that the gender and morphological characteristics of this constituent usually correspond to that of the whole compound. In the following, we have divided the compounds into groups according to the number of syllables of the first constituent. The first group that we examine contains polysyllabic first constituents.

(1) Compounds with polysyllabic first constituents

	1st constituent	2nd constituent	Compound	Gloss (compound)
Accent-1 compounds	'møbel$_1$	'trekk$_1$	'møbel$_{\text{ˌ}}$trekk$_1$	*furniture fabric*
	'møbel$_1$	'snekker$_1$	'møbel$_{\text{ˌ}}$snekker$_1$	*furniture maker*
	'møbel$_1$	'stopping$_2$	'møbel$_{\text{ˌ}}$stopping$_1$	*upholstery*
	'motor$_1$	'vei$_1$	'motor$_{\text{ˌ}}$vei$_1$	*motorway*
	'motor$_1$	'kutter$_1$	'motor$_{\text{ˌ}}$kutter$_1$	*motor-powered cutter*
	'motor$_1$	'skade$_2$	'motor$_{\text{ˌ}}$skade$_1$	*engine trouble*
Accent-2 compounds	'skole$_2$	'barn$_1$	'skole$_{\text{ˌ}}$barn$_2$	*school child*
	'skole$_2$	e'lev$_1$	'skolee$_{\text{ˌ}}$lev$_2$	*pupil*
	'skole$_2$	'hage$_2$	'skole$_{\text{ˌ}}$hage$_2$	*schoolyard*
	'gummi$_2$	'ball$_1$	'gummi$_{\text{ˌ}}$ball$_2$	*rubber ball*
	'gummi$_2$	fa'brikk$_1$	'gummifa$_{\text{ˌ}}$brikk$_2$	*rubber factory*
	'gummi$_2$	'støvel$_2$	'gummi$_{\text{ˌ}}$støvel$_2$	*rubber boot*

In (1), the compounds are divided into two sets according to accent. In the first two columns, the individual compound constituents are listed with the accent they have in isolation. The third column then gives the entire compound and its accent. A quick glance over the first and third columns reveals that the accent of the first constituent in column 1 always matches the accent of the entire compound in column 3. This pattern presents no challenge for lexical Accent-2 analyses, or for our own as we will see in the following sections on the individual

58. There are a few complex compounds with main stress on the second constituent, e.g. *lang'fredag*$_1$ 'Good Friday', *røde'kors*$_1$ 'Red Cross'.

approaches. The first constituent of the compound, that which bears main stress, seems to determine the accent. However, the next two sets of compounds with monosyllabic first constituents seem to negate this assumption since this pattern does not persist.

(2) Compounds with monosyllabic first constituents

	1st constituent	2nd constituent	Compound	Gloss (compound)
Accent-1 compounds	'fri$_1$	'sted$_1$	'fri$_{,}$sted$_1$	*asylum*
	'fri$_1$	mi'nutt$_1$	'frimi$_{,}$nutt$_1$	*recess*
	'fri$_1$	'tenker$_2$	'fri$_{,}$tenker$_1$	*free thinker*
	'fest$_1$	'dag$_1$	'fest$_{,}$dag$_1$	*holiday*
	'fest$_1$	hu'mør$_1$	'festhu$_{,}$mør$_1$	*festive atmosphere*
	'fest$_1$	'stemning$_2$	'fest$_{,}$stemning$_1$	*festive mood*
Accent-2 compounds	'kniv$_1$	'blad$_1$	'kniv$_{,}$blad$_2$	*blade of a knife*
	'kniv$_1$	fa'brikk$_1$	'kniv$_{,}$fabrikk$_2$	*knife factory*
	'kniv$_1$	'kjede$_2$	'kniv$_{,}$kjede$_2$	*(knife) sheath*
	'natt$_1$	'tog$_1$	'natt$_{,}$tog$_2$	*night train*
	'natt$_1$	'møbel$_1$	'natt$_{,}$møbel$_2$	*chamber pot*
	'natt$_1$	'arbeid$_2$	'natt$_{,}$arbeid$_2$	*night work*

Now we are confronted with monosyllabic first constituents, all of which necessarily bear Accent 1 in isolation. However, as we see in column three, monosyllables can make up the first constituents of either Accent-1 or Accent-2 compounds. At first glance, it may seem difficult to find any rhyme or reason for the resulting compound accent, yet column three evidences that the individual lexemes are very consistent in their correspondence to a particular compound accent. In this sample, compounds that have the same monosyllabic word as first constituent either always have Accent 1, or Accent 2 depending on the particular word. This consistency, however, disappears when we consider the next sets of examples (3) and (4).

(3) Compounds with homophonic monosyllabic first constituents

1st constituent	2nd constituent	Compound	Gloss (compound)
'ball$_1$	'sal$_1$	'ball,sal$_1$	*ballroom*
'ball$_1$	'tre$_1$	'ball,tre$_2$	*bat/stick*
'ball$_1$	'kjole$_2$	'ball,kjole$_1$	*ball gown*
'ball$_1$	'føring$_2$	'ball,føring$_2$	*ball control*

(4) Compounds with linking morphemes

1st constituent	2nd constituent	Compound	Gloss (compound)
'land$_1$	'mann$_1$	'land,mann$_2$	*farmer*
'land$_1$	'gang$_1$	'land,gang$_2$	*landing*
'land$_1$	'skap$_1$	'landskap$_2$	*landscape*
'land$_1$ /s/	'mann$_1$	'lands,mann$_1$	*compatriot*
'land$_1$ /s/	'lag$_1$	'lands,lag$_1$	*national team*
'land$_1$ /e/	'vei$_1$	'lande,vei$_2$	*highway*
'land$_1$ /e/	'merke$_2$	'lande,merke$_2$	*landmark*
'landgang$_2$/s/	'bru$_1$	'landgangs,bru$_2$	*gangplank*
'landskap$_2$ /s/	'bilde$_2$	'landskaps,bilde$_2$	*natural scenery*
'landskap$_2$/s/	'vern$_1$	'landskaps,vern$_2$	*environmental protection*

(5) Compounds with first constituents ending in syllabic sonorants (/-el/, /-er/)

1st constituent	2nd constituent	Compound	Gloss (compound)
'aksel$_1$	'ben$_1$	'akselben$_2$	*shoulder bone*
'aksel$_2$	'brudd$_1$	'akselbrudd$_2$	*broken axel*
'stempel$_1$	'merke$_2$	'stempelmerke$_1$	*revenue stamp*
'vinter$_1$	'dag$_1$	'vinterdag$_2$	*winter day*
'sommer$_2$	'dag$_1$	'sommerdag$_2$	*summer day*
'tiger$_1$	'sprang$_1$	'tigersprang$_1$	*(tiger) leap*

Sets (3) and (4) offer examples of compounds that appear to contain the same first constituent, yet result in different compound accents. The first set in (3) contains the two homophones *ball* that also happen to be homophones in English and German. One lexeme means 'social dance', and the other 'round object'. Although we are dealing with two different words here, both monosyllables in isolation, of course, have Accent 1. It is interesting that, as first constituents, they consistently make up Accent-1 compounds and Accent-2 compounds, respectively.

Set (4) contains compounds with the monosyllable *land* 'land' in first position. This monosyllable appears to cause Accent 2 in compounds, e.g. '*landmann*$_2$ 'farmer', '*landevei*$_2$ 'highway'. However, the presence of a linking morpheme {-s} can obscure this seemingly transparent pattern, e.g. '*land-s-mann*$_1$ 'compatriot', whereas a linking {-e} does not, e.g. '*land-e-vei*$_2$ 'highway'. We include the derivational {-skap} in this set of compounds to substantiate our claim made in Chapter 3 that this derivational suffix forms a word of its own, and behaves exactly like a second constituent of a compound.

The third set (5) shows us that the accent of polysyllables is not always as stable as many would like to claim they are. Here we have one group of polysyllables ending in /-el/ or /-er/ that have Accent 1 in isolation, e.g. '*aksel*$_1$ 'shoulder', '*vinter*$_1$ 'winter', and Accent 2 in compounds, e.g. '*akselben*$_2$ 'shoulder bone', '*vinterdag*$_2$ 'winter day', and another group whose members act like normal polysyllables. They either have Accent 1 in isolation and in compounds, e.g. '*stempel*$_1$ 'stamp', '*stempelmerke*$_1$ 'revenue stamp'; '*tiger*$_1$ 'tiger', '*tigersprang*$_1$ '(tiger) leap', or Accent 2 in both forms, e.g. '*aksel*$_2$ 'axel, *'akselbrudd*$_2$ 'broken axel'; '*sommer*$_2$ 'summer', '*sommerdag*$_2$ 'summer day'.

This summarises the different accentual patterns in Standard East Norwegian compounds. We now precede to a discussion of how previous analyses have tackled this distribution of accents among Standard East Norwegian compounds in the following section, before presenting our own account in section 3.

2. Accent-2 accounts of compound accent assignment

2.1. Withgott & Halvorsen (1984, 1988)

In Standard East Norwegian, accent assignment in compounds with polysyllabic first constituents, as we saw in (1), is quite transparent.[59] It is an established fact that a polysyllabic first constituent determines the accent of the entire compound (e.g. Haugen 1963/1983, Vanvik 1978). In other words, whatever accent the first constituent bears in isolation, the entire compound will have this accent as well. Therefore, we start out with Withgott & Halvorsen's

59. For the moment we will ignore the words that end in /-el/, /-er/ in (5).

(1984, 1988) analysis of polysyllabic first constituents before moving on to the seemingly more difficult task of compounds with monosyllabic first constituents.

2.1.1. Compounds with polysyllabic first constituents

As we saw in Chapter 2, section 2.2, Withgott & Halvorsen (1984, 1988) claim that lexically specified affixes dominate over stems, giving their lexical specification – either Accent 1 or Accent 2 – to the main stressed syllable, and determining the tone of the complex word. For compounds, they posit that the accent of the first constituent always dominates over the entire compound. Recall that Withgott & Halvorsen (1984, 1988) posit a privative opposition in stems (lexical Accent 2 vs. default Accent 1). Affixes, however, can be specified for inducing either Accent 1 or Accent 2, or for being neutral. Therefore, for example, the lexical H tone of a lexically specified first constituent, such as {^{H}'dame$_{2}$} 'lady', Withgott & Halvorsen (1984) claim, will induce Accent 2 on the whole compound, i.e., {^{H}'dame$_{2}$} + {sko$_{1}$} > '*damesko*$_{2}$ 'ladies' shoe'.

However, not only lexically specified first constituents determine the outcome of the whole in their analysis. If an unspecified word such as '*sirkus*$_{1}$, 'circus' comprises the first constituent of a compound, it will also indirectly determine the tone of the whole producing Accent-1 compounds, i.e., '*sirkusdame*$_{1}$ 'circus lady'. Since '*sirkus* has no lexical Accent 2 assigned to the main stressed syllable, it will receive default Accent 1, and consequently cause the whole compound to have Accent 1. The second constituent of a compound, as for example {^{H}'dame} in '*sirkusdame*$_{1}$, never affects the accent of a compound, even if it bears lexical tone. Accent assignment in compounds with polysyllabic first constituents appears to be accountable for by Withgott & Halvorsen's approach with no great complications. However, let us proceed to see how Withgott & Halvorsen (1984, 1988) handle accent assignment of compounds with monosyllabic first constituents.

2.1.2. Compounds with monosyllabic first constituents

Withgott & Halvorsen (1984) believe to have found the key to solving compound accent assignment of compounds with monosyllabic first constituents directly in their analysis of the present tense (cf. Chapter 2, section 2.1.6). They propose that certain monosyllabic verbal stems that have Accent-2 present tense forms are equipped with an underlying lexical H tone, or Accent 2. In their analysis of the two present tense forms '*driver*$_{\mathbf{1}}$ 'drift (PRES)', and '*kjøper*$_{\mathbf{2}}$ 'buy (PRES)' for example, they claim that '*driver*$_{\mathbf{1}}$ has Accent 1 because the stem {driv-} is tonally unspecified; '*kjøper*$_{\mathbf{2}}$, in contrast, has Accent 2 because its stem bears a floating H tone {$^{\mathbf{H}}$kjøp-}. They further claim that the H of {$^{\mathbf{H}}$kjøp-} not only surfaces in the present tense, but also when these verbal stems make up the first constituent of compounds. This appears to hold true for the compounds '*drivstoff*$_{\mathbf{1}}$ 'fuel' and '*kjøpmann*$_{\mathbf{2}}$ 'merchant' that Withgott & Halvorsen (1984:22) give as examples. They assert that these compounds are composed of toneless {driv} + {stoff} and tone-inducing {$^{\mathbf{H}}$kjøp} + {mann}. The floating H of {$^{\mathbf{H}}$kjøp} surfaces in the Accent-2 compound '*kjøpmann*$_{\mathbf{2}}$, and {driv}, which has no floating tone, receives default Accent 1 in the compound '*drivstoff*$_{\mathbf{1}}$. We will return to this prediction in section 2.1.3.

The question that follows then is: could the oblique distribution of accents in compounds with monosyllabic first constituents be contributed to the fact that all monosyllables, and not just verbal monosyllables can have underlying tonal specification? Withgott & Halvorsen (1984) believe this is indeed the case, and predict for all compounds that if the first constituent – be it polysyllablic or monosyllabic – shows up in Accent-2 compounds, this first constituent must have an underlying lexical H tone. We list a few examples of compound accent assignment from Withgott & Halvorsen's (1984) analysis.

(6) Compound accent assignment (Withgott & Halvorsen 1984:24)

	Constituents	Compound	Gloss (constituents)
a.	$^{\mathrm{H}}$dame + sko	'damesko$_{\mathbf{2}}$	*lady* + *shoe*
b.	$^{\mathrm{H}}$dame + frisør	'damefrisør$_{\mathbf{2}}$	*lady* + *hairdresser*
c.	$^{\mathrm{H}}$gull + smed	'gullsmed$_{\mathbf{2}}$	*gold* + *smith*
d.	$^{\mathrm{H}}$gull + pris	'gullpris$_{\mathbf{2}}$	*gold* + *price*
e.	$^{\mathrm{H}}$mann + folk	'mannfolk$_{\mathbf{2}}$	*man* + *folk*

	Constituents	Compound	Gloss (constituents)
f.	^{H}mann + draper	'manndraper$_{\mathbf{2}}$	*man* + *killer*
g.	brann + alarm	'brannalarm$_{\mathbf{1}}$	*fire* + *alarm*
h.	brann + mann	'brannmann$_{\mathbf{1}}$	*fire* + *man*
i.	sirkus + dame	'sirkusdame$_{\mathbf{1}}$	*circus* + *lady*

As we can see here in (6), Withgott & Halvorsen (1984) posit that the first constituent of the Accent-2 compounds (6a-f) are all specified for bearing a floating H. No matter whether these first constituents are polysyllabic, and have Accent 2 in isolation (6a,b), or whether they are monosyllabic, and the floating H only surfaces in compounds (6c-f), they would say that there must be a lexical H causing Accent 2 in these compounds. All Accent-1 compounds consequently have no floating tone on the first constituent, and receive default Accent 1 (6g-i).

Previous analyses generally just dismiss compounds with monosyllabic first constituents as a small number of inconsistent exceptions, or claim that monosyllables are often subject to metatony in compounds (e.g. Liberman 1982:23). In defence of their revolutionary analysis – positing that monosyllables also can have underlying tonal opposition – Withgott & Halvorsen (1988) present statistics for compounds with monosyllabic first constituents. In their quantitative investigation of compound accent, only 14.2% of all compounds with monosyllabic first constituents fluctuate in tone. This fluctuation is attributed to homophones that differ underlyingly in tone and semantics. The remaining compounds are always either Accent 1 (32.7%), or Accent 2 (67.3%). Unfortunately, Withgott & Halvorsen's (1988) study did not include compounds with linking elements.

2.1.3. Some problematic predictions and open questions

There seem to be two major errors in reasoning in Withgott & Halvorsen's (1984, 1988) analysis of compounds. The first problem stems from their analysis of accent assignment in the present tense. The second concerns their categorisation and understanding of tonally neutral suffixes. Let us begin with Withgott & Halvorsen's (1984) prediction that the accent of a verb in the present tense should match the accent of compounds made with this verbal stem, as we mentioned in section 2.1.6 of Chapter 2.

According to Withgott & Halvorsen (1984), the differing accent of present tense verbs is a consequence of diverging tonal representation of the stems. Therefore, they predict that all verbs with Accent-1 present tense forms should form Accent-1 compounds, and all verbs with Accent-2 present tense forms will have Accent-2 compounds. Kristoffersen (1992:48) investigated this prediction from Withgott & Halvorsen (1984), and provides the following list of compounds that do not comply with it.

(7) Present tense verbs and corresponding compounds (Kristoffersen 1992:48)

Verbs$_{PRES}$		Gloss	Compounds		Gloss
a. Accent-1	'skriker$_1$	*scream*$_{PRES}$	Accent-2	'skrikhals$_2$	*squaller*
	'sniker$_1$	*sneak*$_{PRES}$		'snikskytter$_2$	*sniper*
	'sprekker$_1$	*burst, split*$_{PRES}$		'sprekkdannelse$_2$	*fissuration*
b. Accent-2	'tenner$_2$	*ignite*$_{PRES}$	Accent-1	'tennsats$_1$	*percussion cap*
	'dekker$_2$	*cover*$_{PRES}$		'dekkevne$_1$	*surface to paint*
	'hefter$_2$	*attach*$_{PRES}$		'heftplaster$_1$	*adhesive tape*

In (7a), there are Accent-1 present forms, the stems of which create Accent-2 compounds contradictory to the predictions made in Withgott & Halvorsen (1984). In (7b), we have Accent-1 compounds from three stems, {^{H}tenn-}, {^{H}dekk-}, and {^{H}heft-}, all of which should bear floating H tones because of their Accent-2 present tense forms. However, this lexical H does not surface in any of the compounds in (7b), as Withgott & Halvorsen (1984) would predict. In light of this evidence, we must conclude that the accent a verb has in the present tense, does not necessarily correlate with the tone it has as the first constituent of a compound. This could be seen as further proof that these verb stems do not differ in accent, but rather that the difference lies in the present tense suffixes, as our analysis suggests (cf. Chapter 3, section 2.2.2).

This discrepancy in the accent of verbs in the present tense and as first constituents of compounds, however, does not necessarily rule out the possibility that monosyllables can indeed be underlyingly specified for accent. In Withgott & Halvorsen (1988), they make a further prediction that we believe leads to the second major error. They predict that the underlying accent of monosyllabic words should not only show up in compounds, but that it

should surface with neutral affixes as well (cf. Withgott & Halvorsen 1988:281f). Unfortunately, the only neutral affix mentioned in this paper is {-aktig}, and indeed suffixation with {-aktig} acts just like a compound. Monosyllabic words suffixed with {-aktig} exhibit the same accent as when they make up the first constituents of compounds (e.g. '*vatt*$_{\mathbf{1}}$ 'cotton', '*vattaktig*$_{\mathbf{1}}$ 'cottony'; '*vann*$_{\mathbf{1}}$ 'water', '*vannaktig*$_{\mathbf{2}}$ 'watery').

If we look back at Withgott & Halvorsen (1984), however, they claim that the derivational suffix {-het} is a neutral suffix, and it is here we find counterevidence. Following their argumentation, the monosyllabic first constituent of an Accent-2 compound such as '*finkamm*$_{\mathbf{2}}$ 'fine-tooth comb' or '*finbrød*$_{\mathbf{2}}$ 'fine-grain rye bread' has an inherent H, i.e, {$^{\mathbf{H}}$fin-}. This floating H ultimately surfaces when there is a disyllabic domain on Level 1, where derivational suffixation and compounding takes place. However, if compounding and derivational suffixes both attach on Level 1, and we, on the one hand, form a compound with {$^{\mathbf{H}}$fin-} and, on the other hand, attach a neutral suffix like {-het}, we find that the floating H of {$^{\mathbf{H}}$fin-} only surfaces in the compound '*finbrød*$_{\mathbf{2}}$ 'fine-grain rye bread', and not in the new disyllabic suffixed form '*finhet*$_{\mathbf{1}}$ 'refinement'. Presumably there are many such examples (e.g. '*godlukt*$_{\mathbf{2}}$ 'fragrance', '*godhet*$_{\mathbf{1}}$ 'goodness'; '*mildvær* 'mild weather', '*mildhet* 'mildness' to name just a few). Thus, their prediction does not hold for the neutral suffix {-het}. Something must be blocking the floating H from surfacing in these derived forms. If you recall Chapter 3, section 3.2.3, our analysis claims that the morpheme {-het} is a clitic, added after accent assignment. We came to this conclusion because {-het} is invisible to accent assignment, as can be seen here, and consequently does not add a syllable to a prosodic word – as far as accent assignment is concerned. As we mentioned in Chapter 3 (section 3.2.3), derivational suffixes consisting of two syllables, e.g. {-aktig}, {-messig}, behave just as a second constituent of a compound. Thus, once again we find that Withgott & Halvorsen (1984, 1988) have constituents grouped together that behave differently as they did when they classified the definite articles as Accent-1 inducing suffixes.

There are further questions about stems with inherent H tones, concerning how and when the floating H of a stem attaches to the main stressed syllable. Withgott & Halvorsen (1984) posit that derivational affixation and compound formation both take place on Level 1. However, if a monosyllabic word attaches to a so-called H-inducing suffix, e.g. {$^{\mathbf{H}}$-lig}, {$^{\mathbf{H}}$-dom}, Withgott & Halvorsen (1988) claim that the floating H of the suffix connects to the main stressed syllable resulting in Accent-2 derivations, e.g. '*guddom*$_{\mathbf{2}}$ 'deity'. Yet, when a

monosyllabic word joins to form a compound with, for example, another monosyllable, e.g. *brann* + ^{H}*mann* 'fireman', the floating H of the second constituent should technically surface here as well.[60] That is, if compounding takes place on the same level as {-^{H}lig} and {-^{H}dom} suffixation, why does the floating H of {-^{H}lig} and {-^{H}dom} surface, but not that of {^{H}mann}? Once again a detail that Withgott & Halvorsen (1984, 1988) do not explain.

2.1.4. Summary

To summarise Withgott & Halvorsen's (1984, 1988) analysis of simple compounds we come up with the following generalisations:

- Tonal opposition in stems is privative.
- The first constituent determines accent of the entire compound.
- Stems – both monosyllabic and polysyllabic – can be specified for bearing a H tone (inducing Accent 2), or no tone at all (default Accent 1).
- If the first constituent has a H tone then the entire compound has Accent 2, or else, the compound has Accent 1.
- The tonal specification of verb stems should produce forms with the same accent in the present tense and as first constituents of compounds.

2.2. Kristoffersen (1992, 2000)

As we saw in Chapter 2, section 2.2, the analysis in Kristoffersen (2000) is founded on the assumption that Accent 2 is the lexically specified accent. His analysis of compounds with polysyllabic first constituents is, therefore, quite similar to that of Withgott & Halvorsen's (1984, 1988). Polysyllabic first constituents of Accent-2 compounds have H tones, whereas the first constituents of Accent-1 compounds lack tonal specification. Kristoffersen's (2000) analysis of compounds, nevertheless, is of great interest to us, because it is much more

60. According to the approach taken by Withgott & Halvorsen (1984), {^{H}mann} would bear a floating H since {^{H}mann} + any other word creates Accent-2 compounds, e.g. '*manndrap*$_{2}$, 'homicide', '*mannfolk*$_{2}$, 'man', '*manntall*$_{2}$ 'census', etc.

comprehensive than Withgott & Halvorsen's (1984, 1988), and includes a more in-depth analysis of compounds with monosyllabic first constituents and with linking morphemes.

2.2.1. Compounds with monosyllabic first constituents and with linking morphemes

Although Kristoffersen (1992, 2000) rejects Withgott & Halvorsen's (1984, 1988) analysis of monosyllabic stems, he actually comes to a quite similar solution. He posits that Accent-2 compounds are not caused by the underlying tone of the monosyllables themselves, but by their lexically specified tone-bearing compound stems. He suggests that monosyllabic words can be specified in the lexicon for having one of three compounds stems, the most basic of which we list below. We begin with compound stems for monosyllabic first constituents that affect Accent-2 compounds such as we saw in (2b).

(8) Compound stem representation (Kristoffersen 2000:266):
Monosyllabic first constituents affecting Accent-2 compounds

$$[[x]_{N,A}]^{H}_{\text{COMP-STEM}}$$

The representation in (8) tells us that a word (x) has a compound stem (COMP-STEM) that bears a floating H tone.[61] Applying this to the compound '*kniv¡blad*$_2$ 'blade of a knife', Kristoffersen's (2000) representation would be: $[[\text{kniv}]_N]^{H}_{\text{COMP-STEM}}$ + [blad]. The floating H of the compound stem attaches to the stressed syllable, producing the compound '*kniv¡blad*$_2$ with Accent 2. In contrast, the representation of an Accent-1 compound like '*fest¡dag*$_1$ 'holiday' would be merely [fest] + [dag], without any tone-bearing compound stem, since *fest* and its compounds all receive default Accent 1 in Kristoffersen (1992, 2000).

One and the same monosyllable can either always form compounds with linking morphemes, or just sometimes, or never form compounds with a linking morpheme. It is very difficult to predict when a stem takes a linking morpheme or not.[62] However, in Kristoffersen's (2000) analysis, monosyllables and polysyllables that form compounds with linking morphemes are also specified for having special compound stems in the lexicon. We illustrate

61. Lower case N and A stand for noun and adjective, respectively.
62. For a study investigating children's ability to correctly form compounds with or without linking morphemes in German cf. Plank (1976).

this below by applying Kristoffersen's (2000) analysis to the compounds formed with the monosyllable *land*.

(9) Three compound stems for *land*:

	Compound stem (cf. (8))	2nd const.	Accent assignment	Compound	Gloss
a.	$[[land]_N]^{H}_{STEM}$ +	[mann] >	ᴴ'landmann >	landmann$_2$	*farmer*
b.	$[[land]_N$ **e**$]^{H}_{STEM}$ +	[merke] >	ᴴ'landemerke >	landemerke$_2$	*landmark*
c.	$[[land]_N$ **s**$]_{STEM}$ +	[mann] >	'landsmann >	landsmann$_1$	*compatriot*

In (9), the first two compound stems apply to monosyllables that form Accent-2 compounds. These words induce Accent 2 because their compound stems bear floating H tones on the tonal tier. The stem in (9a) is identical to the stem we just discussed in (8) for monosyllables with Accent-2 compounds. Example (9b) represents the compound stem for monosyllables that have the linking morpheme {-e}, and produce Accent-2 compounds like '*landemerke*$_2$ 'landmark'. On the tonal tier, both stems (9a,b) include floating H tones causing Accent-2 compounds, and (9b) includes a linking {-e} on the segmental tier as well. For Accent-1 compounds with a linking {-s}, Kristoffersen (2000) suggests that these monosyllables or polysyllables are lexically specified for having the compound stem listed in (9c). This means that in a compound like '*landsmann*$_1$ 'compatriot', *land* would be specified for having a compound stem which includes a segmental /s/, but no floating tone. Thus producing compounds with a linking {-s}, yet with default Accent 1, i.e., '*landsmann*$_1$. These three stems are all Kristoffersen (2000) needs to account for accent assignment in all compounds with monosyllabic first constituents and with linking morphemes. We repeat in (10) our list of compounds with linking morphemes from (4), and employ Kristoffersen's (2000) analysis to them.

(10) Compounds with linking morphemes (repeated from (4))

	1st constituent	2nd constituent	Compound	Gloss (compound)
a.	'land$_1$	'mann$_1$	'land$_{\iota}$mann$_2$	*farmer*
b.	'land$_1$	'gang$_1$	'land$_{\iota}$gang$_2$	*landing*
c.	'land$_1$	'skap$_1$	'landskap$_2$	*landscape*
d.	'land$_1$ /s/	'mann$_1$	'lands$_{\iota}$mann$_1$	*compatriot*
e.	'land$_1$ /s/	'lag$_1$	'lands$_{\iota}$lag$_1$	*national team*

	1st constituent	2nd constituent	Compound	Gloss (compound)
f.	'land$_{\mathbf{1}}$ /e/	'vei$_{\mathbf{2}}$	'lande$_{,}$vei$_{\mathbf{2}}$	*highway*
g.	'land$_{\mathbf{1}}$ /e/	'merke$_{\mathbf{2}}$	'lande$_{,}$merke$_{\mathbf{2}}$	*landmark*
h.	'landgang$_{\mathbf{2}}$/s/	'bru$_{\mathbf{1}}$	'landgangs$_{,}$bru$_{\mathbf{2}}$	*gangplank*
i.	'landskap$_{\mathbf{2}}$ /s/	'bilde$_{\mathbf{2}}$	'landskaps$_{,}$bilde$_{\mathbf{2}}$	*natural scenery*
j.	'landskap$_{\mathbf{2}}$/s/	'vern$_{\mathbf{1}}$	'landskaps$_{,}$vern$_{\mathbf{2}}$	*environmental protection*

According to Kristoffersen (2000), the lexeme *land* would be specified in the lexicon for taking one of the three compound stems listed in (9), according to the constituent that follows, i.e., the second prosodic word of the compound. In examples (10a,b,c), *land* has a compound stem with a floating H tone corresponding to (9a). In examples (10d,e), it has a compound stem with a linking {-s}, yet no tonal specification corresponding to (9c). Examples (10f,g) then both have a compound stem that contains a linking {-e} and floating H corresponding to (9b). The final three examples (10h,i,j) are complex compounds, the first constituent of which is a complex word itself '*landgang* 'landing' and '*landskap* 'landscape'. We imagine the compounding process of (10i) '*landskapsbilde*$_{\mathbf{2}}$ 'natural scenery' for Kristoffersen (2000) would be represented as follows.

(11) Compounding of '*landskap-s-bilde*$_{\mathbf{2}}$

	Compound stem (cf. (8))	2nd const.	Accent assignment	Compound
1.	$[[\text{land}]_{N}]^{\mathbf{H}}_{\text{STEM}}$ +	[skap] >	$^{\mathbf{H}}$'landskap >	'landskap$_{\mathbf{2}}$
2.	$[[^{\mathbf{H}}\text{landskap}]_{N}\,\mathbf{s}]_{\text{STEM}}$ +	[bilde] >	$^{\mathbf{H}}$'landskapsbilde >	'landskapsbilde$_{\mathbf{2}}$

Here we assume that the analysis presented in Kristoffersen (2000) would have a compound stem that bears a floating H for *land*, and another compound stem with a linking {-s} on the compound '*landskap* itself, to give us '*landskapsbilde*$_{\mathbf{2}}$, as well as '*landskapsvern*$_{\mathbf{2}}$ 'environmental protection'. It could also be possible that {-skap} itself is specified for having a compound stem with a linking {-s}.

All in all, this seems to us to be quite a number of stems to be stored in the lexicon for a typical Germanic word such as *land*. Whereby a non-native word such as '*naan* 'naan', forming compounds like '*naanbrød*$_{\mathbf{1}}$ 'naan bread', does not have a compound stem that needs be stored in the lexicon, and receives default accent.

2.2.2. Compounds with first constituents ending in syllabic sonorants

Kristoffersen (2000) extends this analysis to also account for compounds with first constituents ending in syllabic sonorants /-el/ and /-er/ that we saw in (5), which we repeat below.

(12) Compounds with first constituents ending in *-el, -er*

	1st constituent	2nd constituent	Compound	Gloss (compound)
a.	'aksel$_1$	'ben$_1$	'akselben$_2$	*shoulder bone*
b.	'aksel$_2$	'brudd$_1$	'akselbrudd$_2$	*broken axel*
c.	'stempel$_1$	'merke$_2$	'stempelmerke$_1$	*revenue stamp*
d.	'vinter$_1$	'dag$_1$	'vinterdag$_2$	*winter day*
e.	'sommer$_2$	'dag$_1$	'sommerdag$_2$	*summer day*
f.	'tiger$_1$	'sprang$_1$	'tigersprang$_1$	*(tiger) leap*

For the first constituents with Accent 1 in isolation and Accent 2 in compounds in (12a,d), Kristoffersen (2000) posits a pattern just like monosyllables with compound stem corresponding to (9a).

(13) Compounding of '*akselben*$_2$

$[[\text{aks}_{\text{ˌ}}\text{l}\,]_{\text{N}}\,]^{\mathbf{H}}_{\text{COMP-STEM}} + [\text{ben}] > {}^{\mathbf{H}_1}$'akselben > 'akselben$_2$

Kristoffersen (2000) claims that these roots in (12a,d) do not bear any lexical tone and therefore have Accent 1 in isolation. It is their compound stems that bear floating H tones inducing Accent 2 in compounds. Thus, it appears as if not only monosyllabic stems but also polysyllabic stems can have tone that only surfaces in compounds. As we can see in (12), there are words specified for bearing a floating H, and thus have Accent 2 in isolation and in compounds (cf. (12b,e)), or they have no tonal specification giving them default Accent 1 in isolation, and as first constituents of compounds (cf. (12c,f)), or they have compound stems bearing an H inducing Accent 2 in compounds, yet not affecting the accent of the word in isolation (cf. (12a,d)).

2.2.3. Summary

The analysis of compound accent assignment for Standard East Norwegian put forth in Kristoffersen (1992, 2000) can be summarised as follows.

- Tonal opposition is privative.
- Polysyllabic stems can be specified for bearing a H tone (inducing Accent 2).
- The first constituent determines accent of the entire compound.
- If the first constituent has a H tone, then the entire compound has Accent 2, or else, the compound has Accent 1.
- Monosyllabic first constituents (and polysyllables ending in -el, -er that are Accent 1 in isolation) of Accent-2 compounds have a compound stem with a floating H.
- Monosyllabic first constituents with a linking {-e} are lexically specified for having a compound stem with a floating H on the tonal tier and /-e/ on the segmental tier.
- First constituents (simplex as well as complex) that have a linking {-s} in compounds, have a compound stem with a /-s/ on the segmental tier but nothing on the tonal tier.

2.3. A brief comparison of Accent-2 accounts

We believe that Withgott & Halvorsen (1984, 1988) were on the right track assuming that monosyllables also can be underlingly specified for bearing lexical accent. Unfortunately their analysis of monosyllabic verb stems and present tense formation lead them astray. Kristoffersen (1992, 2000) also noticed this mistake and was able to locate the bad apple while harvesting the rest, by positing an accent opposition in present tense suffixes instead of in the verbal stems. The main difference between these two analyses of compound accent assignment is that Withgott & Halvorsen (1984, 1988) posit that the floating H of monosyllables is a part of the lexical specification of their roots. These roots come with a floating H, they do not only surface in present tense or compound formation. Kristoffersen (1992, 2000), on the contrary, argues that the floating H is not a lexical property of the root, but rather a morphological property. The floating H comes with the compound stem because it only applies to compound formation. In either case, one major drawback of a lexical Accent-2 approach is that the language learner ends up having to specify many native words for bearing lexically specified

Accent 2. In the two Norwegian pronunciation dictionaries, Alnæs (1925) and Berulfsen (1969), both authors mention that compounds generally have Accent 2, but that there are many exceptions. All approaches that assume Accent 2 as the lexically specified accent will consequently have to assign lexical accent to more words than an Accent-1 approach. To assume that Accent 2 is the more general accent that can be overridden by lexical Accent 1 resolves many of these problems before they start, as we attempt to show in the next section.

3. Compound accent assignment: Our lexical Accent-1 approach

In this section, we would once again like to illustrate the advantages of an approach that assumes Accent 1 as the lexically specified accent by showing how it can also account for accent assignment in compounds with ease. Our approach has two crucial differences that set it apart from previous analyses. First and foremost, of course, is the assumption that Accent 1, not Accent 2, is the lexically specified accent. Second, we posit that monosyllables can be underlyingly specified for lexical accent, similar to Withgott & Halvorsen (1984, 1988) and Kristoffersen (1992, 2000). However, we claim that these monosyllables can be specified for Accent 1 and not for bearing a H tone or Accent 2.

As we already mentioned, the phonetic realisation of Accent 2 requires at least a disyllabic trochee, and consequently all monosyllabic words are Accent 1 on the surface. Thus, at first blush, tonal opposition only appears to occur in polysyllabic words. Nevertheless, we posit that some monosyllabic words are underlyingly categorised for being lexically specified, whereas others are unspecified for lexical accent. This holds true for Standard East Norwegian, although not for Central Swedish. Evidence for the lexical specification of monosyllables surfaces in compounds, when an environment is created where either Accent 1 or 2 is possible.

In what follows, we give a full account of lexical specification of compounds in Standard East Norwegian, showing that there is indeed underlyingly tonal opposition in monosyllables in dialects where compounds can have either Accent 1 or Accent 2. We start with compounds that have polysyllabic first constituents, taking a small excursion into Central Swedish first.

3.1. Compounds with polysyllabic first constituents

As we just explained in connection with stressed prefixes (Chapter 3, section 3.1.1), Central Swedish has generalised accent in complex forms containing two prosodic words to compound Accent 2. Here the accent of the first constituent is irrelevant to accent assignment. If there are two prosodic words, the first of which could also be a stressed prefix, the outcome in Central Swedish is Accent 2. We repeat the compound rule (47) from Chapter 3 in (14) below.

(14) Compound rule

['ω ω] → Accent 2

The compound rule can be seen at work in the following Central Swedish compounds, which contain Accent-1 first constituents.

(15) Accent-1 first constituent but Accent 2 compounds in Central Swedish

1st constituent		2nd constituent	Compound		Gloss (compound)
Accent -1	'möbel$_1$	'tyg$_1$	Accent -2	'möbel,tyg$_2$	*upholstery*
	'möbel$_1$	'snickare$_2$		'möbel,snickare$_2$	*furniture maker*
	'möbel$_1$	'lager$_1$		'möbel,lager$_2$	*furniture warehouse*
	'tiger$_1$	'språng$_1$		'tiger,språng$_2$	*(tiger) leap*
	'tiger$_1$	'öga$_2$		'tiger,öga$_2$	*tiger's eye*
	'tiger$_1$	'unge$_2$		'tiger,unge$_2$	*tiger cub*

Although the first constituent of the compounds in (15) all have Accent 1, the compound rule of course also pertains to first constituents with Accent 2, as well as to monosyllabic initial constituents. This rule even encompasses compounds with linking morphemes that appear to be problematic for Standard East Norwegian as we saw in (4). However, in Central Swedish compound accent assignment is very simple. All complex forms containing at least two prosodic words have Accent 2. The corresponding East Norwegian compounds have Accent 1, as can be seen in (16). Our compound rule in (14) is also at work in Standard East Norwegian, when the first prosodic word is unspecified. If the first constituent, however, bears lexical specification, it determines the accent of the entire compound, as did the lexically specified prefixes (cf. Chapter 3, section 3.1). We illustrate how the compound rules work for Standard East Norwegian in (16). Since the basics of our approach should be familiar to the reader by now, we start straight away indicating with a diacritic lexically specified words. We do this to

make it easier for the reader to fully concentrate on the actual process of accent assignment and to make our analysis as clear as possible.

(16) Compounds with polysyllabic first constituents in Standard East Norwegian

	1st constituent	2nd constituent	Compound	Gloss (compound)
a. Accent-1 compounds	'mǒbel$_1$	'trekk$_1$	'mǒbel$_{\text{ˌ}}$trekk$_1$	*furniture fabric*
	'mǒbel$_1$	'snĕkker$_1$	'mǒbel$_{\text{ˌ}}$snekker$_1$	*furniture maker*
	'mǒbel$_1$	'stopping$_2$	'møbel$_{\text{ˌ}}$stopping$_1$	*upholstery*
	'tĭger$_1$	'sprang$_1$	'tĭger$_{\text{ˌ}}$sprang$_1$	*(tiger) leap*
	'tĭger$_1$	'øye$_2$	'tĭger$_{\text{ˌ}}$øye$_1$	*tiger's eye*
	'tĭger$_1$	'unge$_2$	'tĭger$_{\text{ˌ}}$unge$_1$	*tiger cub*
	'mŏtor$_1$	'vei$_1$	'mŏtor$_{\text{ˌ}}$vei$_1$	*motorway*
	'mŏtor$_1$	'kŭtter$_1$	'mŏtor$_{\text{ˌ}}$kutter$_1$	*motor-powered cutter*
	'mŏtor$_1$	'skade$_2$	'mŏtor$_{\text{ˌ}}$skade$_1$	*engine trouble*
b. Accent-2 compounds	'skole$_2$	'barn$_1$	'skole$_{\text{ˌ}}$barn$_2$	*school child*
	'skole$_2$	e'lĕv$_1$	'skolee$_{\text{ˌ}}$lev$_2$	*pupil*
	'skole$_2$	'hage$_2$	'skole$_{\text{ˌ}}$hage$_2$	*schoolyard*
	'gummi$_2$	'ball$_1$	'gummi$_{\text{ˌ}}$ball$_2$	*rubber ball*
	'gummi$_2$	fa'brĭkk$_1$	'gummifa$_{\text{ˌ}}$brikk$_2$	*rubber factory*
	'gummi$_2$	'støvel$_2$	'gummi$_{\text{ˌ}}$støvel$_2$	*rubber boot*
	'vinter$_1$	'dag$_1$	'vinterdag$_2$	*winter day*

The distribution of accent in compounds should now become very transparent. Compounds by definition consist of at least two prosodic words. Our analysis posits that if the first constituent is lexically specified, the compound has Accent 1 (cf. (16a)). If the first constituent is not specified, the compound receives default Accent 2 (cf. (16b)). We have noted the lexical specification of the second constituents only to show that they have no influence on the accent of the compound. Therefore, in a compound like '*gummifa*$_{\text{ˌ}}$*brĭkk*$_2$ 'rubber factory', the lexically specified second constituent *fa'brĭkk*$_1$ 'factory' will not affect the accent of the compound. It is always the first constituent, the constituent that bears main stress, in this case the unspecified '*gummi*$_2$ 'rubber', that determines the compound accent. The stress of the second constituent is demoted to secondary stress, and thus the tonal accent of this second word is no longer attached to a main stress, consequently, the first constituent of the compound is decisive, and in this case the compound has Accent 2, i.e., '*gummifa*$_{\text{ˌ}}$*brĭkk*$_2$ 'rubber factory'.

A brief summary of our analysis of compounds thus far: The first constituent of a compound bears main stress and determines the accent of the compound. If the first constituent is lexically specified, the compound will have Accent 1. If it has no lexical specification, the compound will receive Accent 2, just like all compounds in Central Swedish do. We need say no more. In the next section, we take this analysis and put it to the test with compounds that have monosyllabic first constituents.

3.2. Compounds with monosyllabic first constituents

For compounds with monosyllabic first constituents, we need not amend our analysis in the slightest. The analysis automatically unfolds from there.

(17) Compounds with monosyllabic first constituents in Standard East Norwegian

	1st constituent	2nd constituent	Compound	Gloss (compound)
a. Accent-1 compounds	'frĭ$_1$	'sted$_1$	'fri$_{\text{ˌ}}$sted$_1$	*asylum*
	'frĭ$_1$	mi'nŭ tt$_1$	'frimi$_{\text{ˌ}}$nutt$_1$	*recess*
	'frĭ$_1$	'tenker$_2$	'fri$_{\text{ˌ}}$tenker$_1$	*free thinker*
	'fĕst$_1$	'dag$_1$	'fest$_{\text{ˌ}}$dag$_1$	*holiday*
	'fĕst$_1$	hu'mŏr$_1$	'festhu$_{\text{ˌ}}$mør$_1$	*festive atmosphere*
	'fĕst$_1$	'stemning$_2$	'fest$_{\text{ˌ}}$stemning$_1$	*festive mood*
b. Accent-2 compounds	'kniv$_1$	'blad$_1$	'kniv$_{\text{ˌ}}$blad$_2$	*blade of a knife*
	'kniv$_1$	fa'brĭkk$_1$	'knivfa$_{\text{ˌ}}$brikk$_2$	*knife factory*
	'kniv$_1$	'kjede$_2$	'kniv$_{\text{ˌ}}$kjede$_2$	*(knife) sheath*
	'natt$_1$	'tog$_1$	'natt$_{\text{ˌ}}$tog$_2$	*night train*
	'natt$_1$	'mŏbel$_1$	'natt$_{\text{ˌ}}$møbel$_2$	*chamber pot*
	'natt$_1$	'arbeid$_2$	'natt$_{\text{ˌ}}$arbeid$_2$	*night work*

It is actually not necessary to divide the analysis up into monosyllabic and polysyllabic first constituents, since the same principles apply. Lexical accent specification of the first constituent dominates accent assignment of the entire compound. The compounds in (17a) all have lexically specified first constituents, and all result in Accent-1 compounds. The first constituents of the compounds in (17b) are not specified for lexical accent and the resulting compounds receive post-lexical Accent 2.

All that needs to be added to our analysis for compound accent assignment up to now are two generalisations. First, not only polysyllabic words, but all words – including monosyllables – can be specified in the lexicon for bearing Accent 1. Second, the first constituent determines the accent of the whole compound. We formalize our compound accent assignment rule for Standard East Norwegian as follows.

(18) Compound accent assignment rule (Standard East Norwegian):

	['ω̆ ω]	→	Accent 1
else,	['ω ω]	→	Accent 2

To illustrate this rule, we apply it to the homophones /ball/, and get the following results:

(19) Application of (18) to compounds with /ball/

	[['băll] $_{\omega}$ [x] $_{\omega}$]	→	Accent 1	(‘social dance’)
else,	['ball] $_{\omega}$ [x] $_{\omega}$]	→	Accent 2	(‘round object’)

As we can see here, /băll/ ‘social dance’, borrowed from French *baller* ‘to dance’, is lexically specified and will always bear Accent 1, whereby the native /ball/ ‘round object’ from ON *bọllr* is unspecified. This Germanic *ball* merely has Accent 1 because it is monosyllabic in isolation, as soon as it can, it will take Accent 2, as in compounds. Withgott & Halvorsen (1984, 1988) and Kristoffersen (2000), however, would have to lexically specify the native *ball* for having a floating H tone or compound stem with a floating H tone respectively. We believe it is a great advantage of our approach that we can account for compound accent assignment for these native and borrowed homophones with the following representations.

(20) Compounds with homophonic first constituents (a more detailed version of (3))

Lexical representation		Stress & accent assignment	Gloss
/băll/ /săl/	>	'ball$_{\iota}$sal$_{\mathbf{1}}$	*ballroom*
/ball/ /tre/	>	'ball$_{\iota}$tre$_{\mathbf{2}}$	*bat/stick*
/băll/ /kjole/	>	'ball$_{\iota}$kjole$_{\mathbf{1}}$	*ball gown*
/ball //føring/	>	'ball$_{\iota}$føring$_{\mathbf{2}}$	*ball control*

3.3. Compounds with first constituents ending in syllabic sonorants

A further advantage of our approach over lexical Accent-2 approaches is that for the disyllabic words ending in *-el* or *-er*, our analysis needs no extra comment or compound stem. The analysis follows from the underlying representations of the first constituent as depicted below.

(21) Compounds with first constituents ending in *-el*, *-er* (adapted from (5))

	1st constituent		2nd constituent	Compound	Gloss (compound)
	representation	accent			
a.	/aksl/	'aksel$_1$	'ben$_1$	'akselben$_2$	*shoulder bone*
b.	/aksel/	'aksel$_2$	'brudd$_1$	'akselbrudd$_2$	*broken axel*
c.	/stɛ̆mpel/	'stempel$_1$	'merke$_2$	'stempelmerke$_1$	*revenue stamp*
d.	/vintr/	'vinter$_1$	'dag$_1$	'vinterdag$_2$	*winter day*
e.	/sommer/	'sommer$_2$	'dag$_1$	'sommerdag$_2$	*summer day*
f.	/ŧ̆iger/	'tiger$_1$	'sprang$_1$	'tigersprang$_1$	*(tiger) leap*

The examples in (21a, d) show that these first constituents are unspecified and have retained the monosyllabicity of their ON stems (ON *ǫxl* ‘shoulder’, *vetr* ‘winter’), and therefore have Accent 1 in isolation, with epenthesis after accent assignment, i.e., '*aksel*$_1$ ‘shoulder’, '*vinter*$_1$ ‘winter’. As first constituents of compounds, they act just like unspecified monosyllables, as can be seen in the resulting Accent-2 compounds '*akselben*$_2$ ‘shoulder bone’ and '*vinterdag*$_2$ ‘winter day’. The remaining unspecified first constituents in (21b,e) are already disyllabic on the surface with Accent 2 in isolation, and therefore we are certain that they are unspecified from the start. These words maintain their default Accent 2 in compounds, i.e., '*akselbrudd*$_2$ ‘broken axel’, '*sommerdag*$_2$ ‘summer day’. The examples in (21c,f) have lexically specified first constituents (/stɛ̆mpel/, /ŧ̆iger/), and thus Accent 1 in isolation ('*stempel*$_1$ ‘stamp’, '*tiger*$_1$ ‘tiger’), and in compounds ('*stempelmerke*$_1$ ‘revenue stamp’, '*tigersprang*$_1$ ‘(tiger) leap’). Once again, all that matters here is whether a first constituent is lexically specified or not. Kristoffersen (2000) would need a compound stem with a floating H for (21a,d), the first constituents of (21b,e) would be lexically specified for bearing a H tone, and the loanwords '*tiger*$_1$ ‘tiger’ and '*stempel*$_1$ ‘stamp’ would take his default Accent 1.

Let us now turn to compounds with linking morphemes and test our approach on these complex forms.

3.4. Compounds with linking morphemes

We believe that the linking morphemes {-e}, {-s} are the phonetic remnants of the genitive markers from earlier stages of Norwegian. This assumption is not unproblematic since the linking {-s} can also be found with feminine nouns that never had an inflectional marker {-s}. Analyses of other Germanic languages, as for instance Wiese (1996) for German, view the linking {-e} as possibly being a plural marker (cf. Wiese 1996:143f.). However, since we are only interested in the influence of these linking morphemes on accent assignment, we will leave the origin of these morphemes unresolved.

In applying the lexical Accent-1 approach to compounds with linking morphemes, the only adjustment that has to be made is to append our list of clitics by one morpheme. Up to now, we have classified the definite articles and the derivational ending {=het} as enclitics, now we argue that the linking morpheme {-s} also belongs to this group. However, before discussing {-s}, we first start out with our analysis for linking {-e}.

3.4.1. Compounds with linking {-e}

As to the distribution of the linking morphemes, the linking {-e} is not as common as the linking {-s}, and only attaches to monosyllabic stems as can be seen in (22).

(22) Compounds with and without the linking morpheme {-e}

1st constituent	2nd constituent	Compound	Gloss (compound)
'land**1**	'skap**1**	'land,skap**2**	*landscape*
'land /e/	'vei**2**	'lande,vei**2**	*highway*
'land /e/	'merke**2**	'lande,merke**2**	*landmark*
'jul**1**	'aften**2**	'jul,aften2	*Christmas eve*
'jul /e/	'nisse**2**	'jule,nisse**2**	*Christmas elf*
'jul /e/	'kake**2**	'jule,kake2	*Christmas cake*

In our examples in (22), none of the first constituents are lexically specified. This we can conclude from the fact that all of the compounds in column three are Accent 2 – with or without a linking {-e}. We know that Accent-2 compounds cannot have a lexically specified first constituent. Our analysis therefore is just the same as for unspecified first constituents, since it is obvious that the linking {-e} has no influence on accent assignment. All of these compounds receive default Accent 2, because none of the first constituents nor the linking {-e}

is lexically specified. We predict, however, that if a first constituent were to bear lexical specification for Accent 1, and form compounds with a linking {-e}, the resulting compounds would have Accent 1. However, since compounds with linking {-e} are remnants of an older grammatical system, and most lexically specified words are borrowed, the chances of finding lexically specified words with linking {-e} are slight. As of yet we have not found any, and therefore it will have to remain just a prediction. Our verdict for the linking {-e} is that it is not lexically specified, and not a clitic, it only adds a syllable to the constituent it attaches to – which are exclusively monosyllables – and follows normal accent assignment. Now let us examine compounds with the linking morpheme {-s}.

3.4.2. Compounds with linking {-s}

In contrast to the linking morpheme {-e}, the linking {-s} can be found attached to monosyllabic stems, as well as to complex words within compounds as shown in (23).

(23) Compounds with and without the linking morpheme {-s}

1st constituent	2nd constituent	Compound	Gloss (compound)
'land$_1$	'gang$_1$	'land$_{\text{ˌ}}$gang$_2$	*landing*
'land$_1$	'skap$_1$	'land$_{\text{ˌ}}$skap$_2$	*landscape*
'land /s/	'mann$_1$	'lands$_{\text{ˌ}}$mann$_1$	*compatriot*
'land /s/	'lag$_1$	'lands$_{\text{ˌ}}$lag$_1$	*national team*
'vinter$_1$	'hage$_2$	'vinter$_{\text{ˌ}}$hage$_2$	*winter garden*
'vinter$_1$ /s/	'tid$_1$	'vinters$_{\text{ˌ}}$tid$_2$	*winter time*
'landgang$_2$/s/	'bru$_1$	'landgangs$_{\text{ˌ}}$bru$_2$	*gangplank*
'landskap$_2$ /s/	'bilde$_2$	'landskaps$_{\text{ˌ}}$bilde$_2$	*natural scenery*
'måned$_2$ /s/	'lån$_1$	'månedslån$_2$	*a month's pay*
redak'sjǒn$_1$ /s/	ar'tikkel$_1$	redak'sjonsar$_{\text{ˌ}}$tikkel$_1$	*editorial*

We see from these examples that *land*$_1$ and '*vinter*$_1$ create Accent-2 compounds when in first position, e.g. '*landgang*$_2$ ‘landing’, '*vinterhage*$_2$ ‘winter garden’, yet when a linking {-s} intervenes directly after the stem, they form Accent-1 compounds, e.g. '*landsmann*$_1$ ‘compatriot’, '*landslag*$_1$, ‘national team’, '*vinterstid*$_2$ ‘winter time’. If the linking {-s} comes after a compound or complex word formed with *land* as the first constituent, the compound has Accent 2, e.g. '*landgangsbru*$_2$ ‘gangplank’, '*landskapsbilde*$_2$ ‘natural scenery’, like compounds with *land* in first position without any linking morphemes usually do. The fact that linking {-s} morphemes can be found in both Accent-1 and Accent-2 compounds abolishes the suspicion

that it itself may be lexically specified. However, it reminds us of the behaviour of the definite articles, which are also found in words with Accent 1, when attached to monosyllables and with Accent 1, or Accent 2 when attached to polysyllables with the respective accent. In Chapter 3, section 2.1.2, we claim that the definite articles pattern this way because they are enclitics, and all clitics are added post-lexically after accent assignment. Therefore, whatever accent the form preceding the clitic has, it remains even after cliticization, e.g. '*landskap*$_2$=*en* > '*landskapen*$_2$ 'landscape/the', landsmann$_1$=en > '*landsmannen*$_1$ 'compatriot/the'. This is exactly how the accent in words with the linking morpheme {-s} pattern as well.

Below we illustrate where compounding with and without linking morphemes takes place concerning word and phrasal levels.

(24) Operations on word and phrasal levels

Word level		
land	[ω]	Default Accent 1
land gang	['ω ω]	Compound Accent 2
land skap	['ω ω]	Compound Accent 2
land-e merke	['ω ω]	Compound Accent 2
Phrasal level (after accent assignment)		
[[land]$_1$ =s mann]$_1$	[['ω]$_1$ ω]	Accent 1
[[landgang]$_2$ =s bru]$_2$	[['ω ω]$_2$ ω]	Compound Accent 2
[[landskap]$_2$ =s bilde]$_2$	[['ω ω]$_2$ ω]	Compound Accent 2

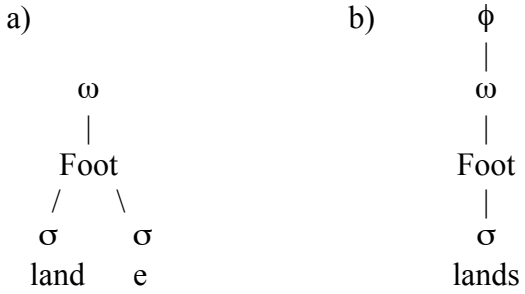
The monosyllable *land* is unspecified for accent. But it gets stress and Accent 1 on the word level, because it does not pass the Disyllabic Trochee Requirement necessary for default Accent 2. All compounds made with *land* as first constituent – with or without a linking {-e} – are also made on the word level and will have compound Accent 2 (e.g. '*landgang* 'landing', '*landskap*$_2$ 'landscape', '*landemerke*$_2$ 'landmark'). For compounds formed with the linking morpheme {=s}, the constituent to which this linking morpheme attaches undergoes stress and accent assignment on the word level, before cliticization on the phrasal level. This means that the constituent to the left of the linking morpheme {=s} will always match in accent with the entire compound. Therefore, in a compound like '*landsmann*, the constituent preceding the linking {=s}, *land* undergoes stress and accent assignment at the word level ['land]$_1$. Then, at

the phrasal level, the enclitic {=s}, and second constituent *mann* are attached. Since accent assignment has already taken place – the entire compound also has Accent 1 to match the accent of '*land*$_1$. In the Accent-2 compound '*landgangsbru*$_2$ 'gangplank', lexically unspecified *land* combines with *gang* to form an unspecified Accent-2 compound on the word level. Having already received stress and accent assignment, the linking morpheme {=s} and *bru* are attached at the phrasal level. Accent assignment has already been completed, thus, this compound also has Accent 2 to match the accent of '*landgang*$_2$. The same applies to the derivation '*landskap*$_2$*=s + bilde* > '*landskapsbilde*$_2$ or '*farskap*$_1$*=s + sak* > '*farskapssak* 'paternity suit' thus providing more proof that the derivational suffix {-skap} acts like a prosodic word.[63]

3.4.3. An alternative analysis of compounds with linking morphemes

Another possible analysis of the linking morphemes {-e} and {-s} could play on their difference in their ability to add a syllable or not. Perhaps monosyllables with linking {-e} form Accent-2 compounds, because an additional syllable has been added creating a disyllabic branching foot. Accordingly, monosyllables with non-syllabic linking {-s} have Accent 1 as a consequence of that they remain monosyllabic, i.e., *lande* vs. *lands*.

(25) Representations of '*lande* and '*lands*



63. We are aware of three monosyllabic words which do not form Accent-1 compounds when followed by a linking {-s}: '*kveld*$_1$ 'evening', '*ovn*$_1$ 'oven' and '*loft*$_1$ 'attic', e.g. '*kveldsmat*$_2$ 'evening meal', '*ovnskrok*$_2$ 'corner by the oven', '*loftsbu*$_2$ 'attic storeroom'. Perhaps these are no longer seen as compounds. In Central Swedish, '*kvällsmat* 'evening meal' can have Accent 1, which is very much an indication that it no longer has compound status in this dialect where all compounds have Accent 2.

Since the first prosodic word with the linking {-e} is now a disyllabic branching foot, and still lexically unspecified, as seen in (25a), it would determine that the compound has Accent 2. However, why should the accent of '*landsmann*$_1$ 'compatriot' differ from that of '*landmann*$_2$ 'farmer'? In both instances we are dealing with a compound composed of two prosodic words. The first constituents are both monosyllabic, as are the second constituents. Yet still there is a difference in accent. The only difference is the additional consonant /s/ at the end of the first constituent, and somehow this is causing accent assignment to take place on a monosyllabic element. We believe that this {-s} is not merely an extra segment, but something that is causing accent assignment to occur before its attachment. Therefore, even in this analysis, the linking {-s} also seems to be acting like a clitic. There seems to be some truth in this argument that words with linking {-e} have a different foot structure. However, more research would have to be done into the history of these linking elements and into foot structure of derivations and compounds to shed more light on the subject.

3.5. Summary

To summarise our lexical Accent-1 approach for compound accent assignment in Standard East Norwegian we come up with the following generalisations.

- Lexical Accent 1 prevails.
- The first constituent determines the accent of the compound.
- If this constituent is unspecified, the compound receives default Accent 2.
- Linking {-e} is a suffix not a clitic – no special treatment.
- Linking {=s} is a clitic, i.e., stress and accent assignment apply before cliticization.

We captured these generalisations in the rule given in (18), repeated here in (26).

(26) Compound accent assignment: Standard East Norwegian

	['ω̆ ω]	→	Accent 1
else,	['ω ω]	→	Accent 2

4. Comparison of Accent-1 and Accent-2 approaches

To round off this section on compound accent, let us just compare Kristoffersen's (2000) analysis with our own based on the example of *land* compounds.

(27) Two possible analysis of *land* compounds

	Representation of 1st & 2nd constituents		Accent assignment		Compound
a. Kristoffersen (2000)	$[[land]_N\ ]^{H}_{COMP\text{-}STEM}$ + mann	>	land^{H}mann	>	landmann$_2$
	$[[land]_N$ **e**$]^{H}_{COMP\text{-}STEM}$ + merke	>	lande^{H}merke	>	landemerke$_2$
	$[[land]_N$ **s**$]_{COMP\text{-}STEM}$ + mann	>	landsmann	>	landsmann$_1$
b. Lexical Accent-1 analysis	$[[land]_\omega\ [mann]_\omega]_\omega$	>	default Accent 2	>	landmann$_2$
	$[[lande]_\omega\ [merke]_\omega]_\omega$	>	default Accent 2	>	landemerke$_2$
	$[[land]_1$**=s** $[mann]_\omega]_\omega$	>	monosyllabic Accent 1	>	landsmann$_1$

Once again the lexical Accent 1 analysis has the edge over any lexical Accent-2 analysis, because we do not have to specify the more numerous native words for bearing Accent 2, and basically all the inflectional endings to boot. A comparison with Kristoffersen's (2000) analysis of compounds with linking morphemes illustrates this nicely. Kristoffersen (2000) has solved the difficult task of accounting for words like '*landmann*$_2$,'farmer', '*landsmann*$_1$ 'compatriot', and '*landemerke*$_2$ 'landmark' by equipping the ON word *land* with three different compound stems – two lexically specified for tone, and one not. All our analysis has to say about native nouns like *land* is that it is specified in the lexicon for taking certain linking morphemes in certain compounds. This statement will have to be made in all Germanic languages that have retained the linking morphemes, since their presence cannot be systematically predicted as shown by Plank (1976).

CHAPTER 5
LOANS AND LEXICALLY SPECIFIED ACCENT 1

Now that our stance on accent assignment in Standard East Norwegian has been presented, we owe the reader and ourselves the answers to a few crucial questions.

- Why are most lexically specified words or affixes loans?
- How are loanwords incorporated into a language?
- What makes Accent 1 the lexical accent?
- Why does accent assignment in Central Swedish and Standard East Norwegian differ?
- What is the special status of monosyllables?

To begin, we would like to review the similarities and differences between Standard East Norwegian and Central Swedish, which we only have hinted at up to now. Closer examination of the morphological constructions diverging in accent in these two closely related languages should tell us more about the nature of lexical Accent 1, and why there are discrepancies in accent distribution. Although our study concentrates on Standard East Norwegian, our actual intentions are to develop an approach that can be employed to all Scandinavian tonal dialects.

The dissimilarities between Standard East Norwegian and Central Swedish are most striking in forms consisting of two prosodic words. One major group of words involved in these accentual disparities is loanwords. Thus, after looking at the similarities and differences of the two languages in section 1, we take an excursion into loanword incorporation in section 2. Here we focus on simplex and complex verbs as well as on nominal and verbal prefixed constructions (2.1.1-2.1.2). Section 2.2. reviews other theories of loanword incorporation in Germanic, setting the stage for our analysis as well as making preliminary postulations as to how affixes were incorporated into Scandinavian. Section 2.3 explores why loanwords – and in particular prefixed loanwords – could not fit into a native Scandinavian pattern by examining the prosodic patterns they had in the source languages. Section 3 presents our final analysis of loanword incorporation. Here we give a complete account of how we believe West Germanic prefixed verbs and nouns were incorporated into North Germanic. In section 4, we explain how

we believe that the discrepancies between Standard East Norwegian and Central Swedish arose. Finally, section 5 discusses the special status of monosyllabic words, the common properties and irregularities of Accent-1 words, lexical accent, and what is implied with this term, and section 6 gives a summary of this chapter.

1. Standard East Norwegian and Central Swedish: A comparison

Accent distribution in Standard East Norwegian and Central Swedish is similar in many ways. We have argued thus far that our approach can account for accent assignment in Standard East Norwegian by only ever specifying morphemes for Accent 1, and never for Accent 2. Accent 1 is the lexically specified accent, all words lacking lexical specification receive default Accent 2, if they contain a main-stressed disyllabic trochee, or if they follow the regular compound rule for compounds with unspecified first constituents. This approach can be applied to Central Swedish as well, as can be seen by the many similarities between Central Swedish and Standard East Norwegian that we discuss below.

1.1. Similarities

The key correspondence of word accent distribution in Standard East Norwegian and Central Swedish is that Accent 1 dominates in both languages. Rules applying to Standard East Norwegian simplex words also apply to Central Swedish (cf. Chapter 3, (4)).[64] The differences emerge in complex constructions consisting of two prosodic words, which we consider below in section 1.2. First, we list a few lexically specified words in Central Swedish, and include a revised version of our list of lexical specified words for Standard East Norwegian from Chapter 3 for comparison.

64. For a more detailed account of the analysis of accent assignment in Central Swedish see Lahiri, Wetterlin & Jönsson-Steiner (2005a).

(1) Abstract lexical accent marking in Central Swedish

Lexically specified words	
Foreign nouns:	*tăxi* 'taxi', *bă̈ndy* 'bandy', *tă̈lang* 'talent', *lă̈vendel* 'lavender', *pĕ̈rgola* 'pergola, arbor', etc.
Names of places:	*Bĕ̈rgen*, *Lŏ̈ndon*, *Grĕ̈kland*, *Pŏ̈rtugal*, *Umĕ̈å, Östersund*, etc.
Days of the week:	*mă̈ndag* 'Monday', *frĕ̈dag* 'Friday', *lörd̆ag* 'Saturday', etc.
Names of berries:	*björn̆bär* 'blackberry', *b̆låbär* 'blueberry', *körs̆bär* 'cherry', etc.[65]

(2) Abstract lexical accent marking in Standard East Norwegian

Lexically specified words	
Foreign nouns:	*bă̈ll* 'dance', *fĕ̈st* 'celebration', *frĭ* 'free', *ă̈ksje* 'stock', *v̆illa* 'villa', *tă̈lent* 'talent', *lă̈vendel* 'lavender', *t̆iger* 'tiger', etc.
Names of places:	*Bĕ̈rgen*, *Lŏ̈ndon*, *Hĕ̈llas* 'Greece', *Pŏ̈rtugal*, etc.
Days of the week:	*mă̈ndag* 'Monday', *frĕ̈dag* 'Friday', *lø̈rdag* 'Saturday', etc.
Names of berries:	*bjø̈rnebær* 'blackberry', *blåbæ̆r* 'blueberry', *kĭ̈rsebær* 'cherry, etc.

The major difference in these two sets of words for Standard East Norwegian and Central Swedish are the lexically specified monosyllables *bă̈ll* 'dance', *fĕ̈st* 'celebration', *frĭ* 'free'. We now included these lexically specified monosyllables in the list for Standard East Norwegian because we saw in Chapter 4 that these too can be lexically specified. This does not apply to Central Swedish. Otherwise, the majority of simplex words correspond in accent and lexical specification. Even the accent of the days of the week, and many of the names of berries coincide in both Norwegian and Swedish, despite their compound-like appearance. Could this be a new development in Central Swedish-Accent-1 compounds? Recall that all compounds in Central Swedish have Accent 2. Or are these perhaps the small traces leftover from an earlier system where Accent-1 compounds were still widespread in all Scandinavian tonal dialects? Another possibility is that these words no longer have compound status for Central Swedish or Standard East Norwegian speakers.

We leave these questions open for the moment, and turn to the next set of words in which accent distribution corresponds in both languages, i.e., derivations with unstressed prefixes.

65. In Swedish only words containing *bär* as second constituent are lexically specified, all other berries are Accent 2: *'jordgubbar*$_2$ 'strawberry', *'lingon*$_2$ 'cranberry', *'hallon*$_2$ 'raspberry'. The *Svenska Uttalsorboken* also lists some Accent 2 variants for the lexically specified berry words as well.

We saw in Chapter 3 (cf. (45)) that these derivations have Accent 1 in both Swedish and Norwegian. We repeat the examples below.

(3) Unstressed prefixes in Swedish and Norwegian

Swedish		Norwegian		Gloss
Prefix + INF	INFINITIVE	Prefix + INF	INFINITIVE	(PREFIX + INF/ INF)
be'hålla$_1$	'hålla$_2$	be'holde$_1$	'holde$_2$	*to keep/ hold*
be'visa$_1$	'visa$_2$	be'vise$_1$	'vise$_2$	*to prove/ show*
be'tänka$_1$	'tänka$_2$	be'tenke$_1$	'tenke$_2$	*to consider/ think*
för'ankra$_1$	'ankra$_2$	for'ankre$_1$	'ankre$_2$	*to anchor/ anchor*
för'bättra$_1$	'bättra$_2$	for'bedre$_1$	'bedre$_2$	*to improve/ better*

All simplex verbs in the infinitive very systematically have Accent 2 in both Swedish and Norwegian, as can be seen in the second and fourth columns. It is the unstressed prefixes, all of which are borrowed, that disturb this once predominantly Accent-2 pattern, as we see in columns 1 and 3. These prefixed infinitives have Accent 1. More variation was brought into the set of infinitive verbs when the stress-bearing verbal suffix {-er} came into the language, as can be seen in the following list.

(4) Stressed verbal suffix {-er}$_{\text{VERB}}$ in Swedish and Norwegian

Swedish	Norwegian	Gloss	Source
analy'sera$_1$	analy'sere$_1$	*to analyse*	German/ French
fun'dera$_1$	fun'dere$_1$	*to found*	Latin
dele'gera$_1$	dele'gere$_1$	*to delegate*	Latin
legiti'mera$_1$	legiti'mere$_1$	*to legitimate*	German/ French
publi'cera$_1$	publi'sere$_1$	*to publicise*	Latin

The examples in (4) show a second set of Accent-1 infinitives – all of which clearly have Latin origins. However, it is often difficult to reconstruct exactly how words come into a language. According to the online editions of the preeminent Swedish and Norwegian dictionaries, i.e., *Svenska Akademiens ordbok* and the *Bokmålsordboka*, these words originally stem from Latin but most likely were borrowed through, or modelled on words from West Germanic languages or French. In any case, these two sets of affixed infinitives in (3) and (4) have Accent 1 in both Central Swedish and Standard East Norwegian.

The set of infinitive verbs with unstressed prefixes, as well as the infinitive verbs with the verbal suffix {-er}$_{\text{VERB}}$, could potentially have Accent 2, since they have penultimate stress. Penultimate stress infers that a possible Accent-2 environment exists, since a disyllabic trochee is available. There are, after all, other loan words – simplex and complex – with the same stress pattern that have Accent 2, for example, the following loans in Norwegian, e.g. *bri'gade*$_{\mathbf{2}}$ 'brigade', *pa'rade*$_{\mathbf{2}}$ 'parade', *prin'sesse*$_{\mathbf{2}}$ 'princess'. Yet, all loans containing the verbal suffix {-er}$_{\text{VERB}}$ persistently have Accent 1 and, as we argue later, always have had Accent 1.

Our claim, as we elucidated in Chapter 3, is that borrowed unstressed prefixes as in (3), and the borrowed stressed suffix {-er}$_{\text{VERB}}$ in (4) are lexically specified for bearing Accent 1. As we see here, this applies to Standard East Norwegian as well as Central Swedish. Lexical accent will also dominate in derivations of these words, which are consequently Accent 1 as well. Below we list some derivations in both Swedish and Norwegian to support our claim.

(5) Deverbal nouns with unstressed prefixes {be$^{\breve{}}$-},{för$^{\breve{}}$-/for$^{\breve{}}$-} or with {-'ĕr}$_{\text{VERB}}$

Swedish		Norwegian		Gloss
Verb	Noun	Verb	Noun	(VERB/ NOUN)
be'hålla$_{\mathbf{1}}$	be'hållare$_{\mathbf{1}}$	be'holde$_{\mathbf{1}}$	be'holder$_{\mathbf{1}}$	*to keep/container /*
	be'hållning$_{\mathbf{1}}$		be'holdning$_{\mathbf{1}}$	*balance (S) inventory (N)*
för'ankra$_{\mathbf{1}}$	förankring$_{\mathbf{1}}$	for'ankre$_{\mathbf{1}}$	for'ankring$_{\mathbf{1}}$	*to anchor/anchorage*
för'bättra$_{\mathbf{1}}$	för'bättring$_{\mathbf{1}}$	for'bedre$_{\mathbf{1}}$	for'bedring$_{\mathbf{1}}$	*to improve/betterment*
fun'dera$_{\mathbf{1}}$	fun'dering$_{\mathbf{1}}$	fun'dere$_{\mathbf{1}}$	fun'dering$_{\mathbf{1}}$	*to found/consideration*
regi'strera$_{\mathbf{1}}$	regi'strering$_{\mathbf{1}}$	regi'strere$_{\mathbf{1}}$	regi'strering$_{\mathbf{1}}$	*to register/registration*
fil'trera$_{\mathbf{1}}$	fil'trering$_{\mathbf{1}}$	fil'trere$_{\mathbf{1}}$	fil'trering$_{\mathbf{1}}$	*to filter/filtering*

Columns 2 and 4 here in (5) evidence that the addition of a nominalizing suffix {-ing} does not change or cancel the lexical accent of the suffix {-ĕr}$_{\text{VERB}}$, or of the unstressed prefixes. These derived nouns all have Accent 1 in both Central Swedish and Standard East Norwegian.

There is one last area of correspondence in Central Swedish and Standard East Norwegian prefixed verbs, namely a handful of native stressed prefixes that we already mentioned in Chapter 3 (cf. section 3.1.2). The examples containing native prefixes are repeated below.

(6) Stressed inherited prefixed verbs with {'mis-}, {'sam-}, {'van-}

	Swedish	Norwegian	Gloss
a.	'misstyda$_2$	'mistyde$_2$	*to misinterpret*
b.	'samstämma$_2$	'samstemme$_2$	*to be attuned*
c.	'vanhedra$_2$	'vanhedre$_2$	*to dishonour*

Here we are reminded that the accent of words with stressed prefixes can also correspond in Central Swedish and Standard East Norwegian within a small set of verbs with native prefixes (cf. (15)) and, as we will discuss in section 2.2.3, within the set of nouns with stressed prefixes (cf. (16)).

Now, to summarise the similarities, we extend our lists of lexical specified words in Central Swedish and Standard East Norwegian by adding some lexically specified affixes to the lists, which correspond in both languages.

(7) Abstract lexical accent specification in Central Swedish: Affixes

a. Lexically specified suffixes:
{-'ĕr}$_{\text{VERB}}$, {¨-ĕr}$_{\text{PLURAL}}$

b. Lexically specified post-accenting prefixes:
productive: {be$^{\text{x}}$-}, {för$^{\text{x}}$-}
non-productive: {er$^{\text{x}}$-}, {ent$^{\text{x}}$-}

(8) Abstract lexical accent specification in Standard East Norwegian: Affixes

a. Lexically specified suffixes:
{-'ĕr}$_{\text{VERB}}$, {¨-ĕr}$_{\text{PLURAL}}$, {-i̇̆sk}, {¨-rĕ}$_{\text{COMPARATIVE}}$,
{$^{\text{x}}$-st}$_{\text{SUPERLATIVE}}$

b. Lexically specified post-accenting prefixes:
productive: {be$^{\text{x}}$-}, {for$^{\text{x}}$- }
non-productive: {er$^{\text{x}}$-}, {ent$^{\text{x}}$-}

c. Lexically specified stressed prefixes:
{ă̆n-}$_{\text{VERB}}$, {ă̆v-}$_{\text{VERB}}$, {mĕ̆d-}$_{\text{VERB}}$, {mŏ̆t-}$_{\text{VERB}}$,
{nĕ̆d-}$_{\text{VERB}}$, {ŏ̆m-}$_{\text{VERB}}$, {ŏ̆pp-}$_{\text{VERB}}$, {p̆å-}$_{\text{VERB}}$,
{t̆il-}$_{\text{VERB}}$, {ŭ̆nn-}$_{\text{VERB}}$, {ŭ̆t-}$_{\text{VERB}}$

All categories of affixes listed here coincide for Central Swedish and Standard East Norwegian in (7) and (8) – except for the stressed prefixes in (8c), which we included just as a

prelude to the next section. As to unspecified affixes, Swedish inflections behave very much like Norwegian inflections, which, as we saw in Chapter 3, are basically all unspecified. This also applies to stressed nominal prefixes that are always Accent 2 in Central Swedish, and mostly Accent 2 in Norwegian, as we will see in sections 2.2.3 and 2.3.l.

Although we have only touched on accent assignment in Central Swedish here and there, leaving out most inflectional and derivational suffixes, the similarities between Central Swedish and Standard East Norwegian are plentiful. Our intentions are simply to hint at how closely related these Scandinavian tonal dialects are. A more comprehensive study of Swedish will naturally be needed to truly establish all the areas of correspondence, however, it must be said that the similarities outweigh the differences by far.

Much can be learned about languages from the differences between them as well, as we see in the next section, when we discuss compound accent assignment and set (8c).

1.2. Disparities

After having discussed the similarities of accent distribution found in simplex words, and in a few sets of affixed words, we now consider the forms where Central Swedish and Standard East Norwegian differ most, namely verbs with stressed prefixes and compounds.

Borrowed particle verbs, complex verbs modelled on MLG or High German constructions, and native particle verbs, all differ in accent for Standard East Norwegian and Central Swedish. Their accent assignment is in two ways interesting for us. First, the accent distribution differs between languages, as we saw in Chapter 3 (cf. section 3.1.1). Second, their accent distribution differs according to the syntactic category of the base. Only prefixed verbs and not prefixed nouns differ in accent assignment in the two languages (cf. Chapter 3, (49) and (51)). Below we repeat the verbs with stressed prefixes in Central Swedish and Standard East Norwegian from Chapter 3, (46).

(9) Stressed verbal prefixes in Swedish and Norwegian

Swedish	Norwegian	Gloss
'anhålla$_2$	'anholde$_1$	*to arrest*
'avvisa$_2$	'avvise$_1$	*to refuse*
'medföra$_2$	'medføre$_1$	*to bring with*
'uppfinna$_2$	'oppfinne$_1$	*to invent*
'utforska$_2$	'utforske$_1$	*to examine*

Swedish	Norwegian	Gloss
'utbetala$_2$	'utbetale$_1$	*to disburse*
'omfamna$_2$	'omfavne$_1$	*to embrace*
'påtala$_2$	'påtale$_1$	*to criticize*
'motstå$_2$	'motstå$_1$	*to resist*

In Central Swedish, all forms consisting of two prosodic words have compound Accent 2. This not only applies to compounds as we saw in Chapter 4 (cf. (15)) but also to all words with stressed prefixes. Here in columns 1 and 4 of (9) we have listed verbs with stressed prefixes to show how accent distribution differs in the two languages. We formalised the rule for compound accent in Central Swedish as follows (repeated from Chapter 3, (47)).

(10) Regular compound rule

['ω ω] → Accent 2

This rule tells us that no matter whether the first constituent is a monosyllabic word or stressed prefix, or whether it is a lexically specified polysyllable as in *la'vendelblå*$_2$ 'lavender blue' (*la'vĕndel*$_1$), or unspecified as in '*gummiboll*$_2$ 'rubber ball' ('*gummi*$_2$), the result is Accent 2 in Central Swedish. In Standard East Norwegian, lexical specification is still very much the determining factor. As we saw in Chapter 4, the accent of the first constituent determines the accent of the entire compound. If lexical specification is available, Accent 1 will be the outcome. The same rules apply to prefixes from the list above in (9). Accent assignment in Standard East Norwegian is indeed sensitive to the lexical marking of the first member in constructions consisting of two prosodic words – contrary to Central Swedish. Thus compound accent assignment in Standard East Norwegian is as follows (repeated from Chapter 4, (18)).

(11) Compound Accent Assignment Rule (Standard East Norwegian)

['ω̆ ω] → Accent 1

else, ['ω ω] → Accent 2

A comparison of the rules in (10) and (11) reveal that it is only one rule setting accent assignment of constructions consisting of two prosodic words in Standard East Norwegian apart from that of Central Swedish.

Our brief comparison of accent assignment in Central Swedish and Standard East Norwegian shows that they are indeed very similar and, in fact, the only major difference can be summarised in one rule. This correspondence suggests that at one time Central Swedish and Standard East Norwegian could have concurred on the accent of these forms as well. We maintain that one of these languages must have evolved away from this common accent distribution. However, how can we discern whether Standard East Norwegian or Central Swedish represents the more original state of accent distribution today? Was there an earlier stage where all forms consisting of two prosodic words exclusively had Accent 2, as they do in modern Central Swedish? Are the verbs with native stressed prefixes, and prefixed nouns that have Accent 2 in both Central Swedish and Standard East Norwegian remnants from this period? This would suggest that the assignment of Accent 1 to compounds and particle verbs in Standard East Norwegian and Southern Swedish is a newer development, a claim that Riad (1998b, 2005) seems to make by assuming that originally all words with two stresses had Accent 2. Another hypothesis would be that accent assignment in Standard East Norwegian is more archaic and that Central Swedish has merely generalised all complex constructions consisting of two prosodic words to Accent 2.

In the following, as well as in section 4, we intend to show that Central Swedish is indeed more innovative in respect to compound accent assignment. We will also clarify why these stressed prefixes pattern differently according to syntactic category in Standard East Norwegian (3.1). The answers to these questions are all very much related to our quest to find out how loans are, and were integrated into the Scandinavian tonal languages, since most prefixes causing Accent 1 in compounds are borrowed from, or modelled on prefixed words from West Germanic languages. Most polysyllabic and even monosyllabic first constituents of Accent 1 compounds are either loans or belong to a special category as we discuss in section 5. Thus, in the following we delve into the past of loans in general and more specifically prefixes in particular to see where they came from, and why they predominantly have Accent 1.

2. Loanword incorporation

It is an accepted fact that most Accent-1 words in North Germanic are loans. Some scholars feel it is only natural to give foreign words coming into a system what they believe is the default accent (which most claim is Accent 1). Many refer to Accent 2 as the more native accent, since the majority of Accent-2 words are native. Stene (1940) writes:

> "Irregular musical accent, that is acc. 1 where the Norwegian speaker would expect acc. 2 is an important criterion of foreign status." (Stene 1940:12)

She assumes that the few loanwords that have Accent 2 were better able to assimilate to the borrowing language (Stene 1940:120ff). Kock (1878:73), in contrast, stipulated that MLG loans acquired Accent 1, because the melody of Accent 1 was closest to the actual pronunciation of these words in MLG. One discrepancy here, however, is that stress is realised in most dialects of German with a H, yet Accent 1 is not realised with a H in all Scandinavian tonal dialects.[66] In some dialects, as in many dialects from western Norway, Accent-1 has a H on the stressed syllable. Yet in many other dialects, like Standard East Norwegian, it has a L on the stressed syllable. These dialectal differences in the tonal manifestation of Accent 1 would mean that MLG loans would have Accent 1 in one dialectal area, yet Accent 2 in others. That is, if speakers were indeed trying to best imitate the foreign pronunciation with the closest corresponding accent in their dialect.[67] Needless to say, we claim this did not happen. Lexical Accent 1 was and is the accent that loans receive, regardless of how stress is realised in the source language, and how Accent 1 is realised in the borrowing language. We claim that loans are lexically specified for Accent 1, because it is the unpredictable accent, the accent of special categories and loans.

When a new word comes into a language, it has to be incorporated, i.e., native speakers try to fit the loanword into the existing patterns available to them. We believe that the strategy of loanword incorporation is to make new words fit into the existing grammar, and we claim that

66. There are also German dialects for example in southern Germany that realise stress with a low tone (cf. Fitzpatrick 1999 for a phonological analysis of a "low-tone" dialect, e.g. Bernese Swiss). These low-tone dialects, yet, are far away from the area where MLG was spoken.

67. Perhaps Kock was not referring to the H/L opposition but to dialects that have two-peaked Accent 2 pronunciation, where one-peaked Accent 1 would be more similar to the pronunciation of MLG words. However, this still does not account for the great influx of MLG words as Accent 1 into dialects where both Accent 1 and Accent 2 only have one peak.

these loanwords will never add new phonological contrasts to a system.[68] Nevertheless, some loanwords indeed fit into the existing patters of the borrowing language, yet, some more easily than others. Although most loans receive Accent 1, simplex words ending in schwa, for example, almost always have default Accent 2 (Kristoffersen 2000: 255), regardless of whether they are native or borrowed. Loanwords will receive Accent 2, if they fit into a native pattern, however, most in fact receive Accent 1.

In the following, we look at loanword incorporation in Standard East Norwegian, i.e., why loanwords generally are specified for lexical Accent 1. Our final analysis of loanword incorporation is then presented in section 3. This discussion of loanword incorporation will ultimately also serve to give us a better understanding of how the differences in Central Swedish and Norwegian compound accent assignment came about (section 4). Now to start, we first examine how English verbs were borrowed into Scandinavian.

2.1. Incorporation of verbs

We begin this section by looking at English loanwords from the early 20th century, and in particular borrowed verbs. This is a group loanwords which are very rarely lexically specified for Accent 1 unless they are polymorphemic. Then we take a large step back in time and investigate how MLG prefixed words were incorporated into Scandinavian, and why they generally received Accent 1.

2.1.1. Simplex verbs: English loans

Our first set of data concerns the incorporation of predominantly monomorphemic verbs from English, based on a study by Stene from 1936 (which appeared as Stene 1940). This study gives us a remarkable insight into how English loanwords from the early 20th century were incorporated into Norwegian. It also allows us to compare what accent they had at a very early stage in Norwegian to the accent that they have today, almost 70 years later.

68. For other studies pursuing this same claim that loanwords do not introduce new phonological contrast to the phonological system of a borrowing language, see Lahiri & Kraehenmann (2004), Lahiri & Kraehenmann (forthcoming), Dresher & Lahiri (2005).

Most donor verbs from English are monosyllabic, yet Stene (1940) also found a few polysyllabic verbs that had also made their way into Norwegian. Below in (12), we list some of these English loan verbs – both mono- and polysyllabic – to show what accent they had in 1936 and in today's Norwegian.[69]

(12) English loan verbs (adapted from Stene 1940:37ff)

	English		Norwegian first spellings & accent	Today's spellings & accent (if differs)
a.	to box	>	'bokse$_2$/'boxe$_2$	
b.	to trawl	>	'tråle$_2$	
c.	to rob	>	'robbe$_1$	'robbe$_2$
d.	to centre	>	'centre$_2$	'sentre$_2$
e.	to chartre	>	'chartre$_2$	
f.	to boycott	>	'boikotte$_1$	
g.	to foxtrott	>	'foxtrotte$_1$	
h.	to handicap	>	'handicappe$_1$	'handikappe$_1$
i.	to capsize	>	'kappseise$_2$/ kap' seise$_1$	'kap(p)seise$_2$
j.	to shingle	>	'shingle$_2$	†[70]
k.	to farm	>	'farme$_2$	†

The examples in (12a,b) illustrate what happens to most monosyllabic English verbs that are borrowed into Norwegian – they receive default Accent-2 as infinitives if possible. However, as we can see in (12c) one verb '*robbe$_1$* 'to rob' initially had Accent 1. Stene (1940) attributes the Accent 1 of *robbe* and its irregular past tense formation (1936: *robbed* – today: *robba/ robbet*) to its foreign-word status. She gives many different reasons for why a loanword does or does not fit well into Norwegian. One of which is whether a word is regarded as being foreign by the speakers of the borrowing language. According to Stene, loans apparently can go through different degrees of being foreign, and of becoming native. Out of the 31 monosyllabic verbs listed in Stene (1940), only '*robbe* had Accent 1 at the start, however it also adapted, i.e., it became less foreign, and eventually changed to Accent 2.[71] Other loan verbs

69. In this case "today's Norwegian" refers to the two dictionaries consulted, namely Haugen (1965) and Hustad (1979).

70. The verbs in (12j,k) are now obsolete. The verb in (12j) meant to cut hair in the "shingle" style of the 1920s – perhaps one good reason why it did not endure.

71. A word of caution must be given here, an Accent-1 verb like '*robbe* is highly peculiar and we cannot be sure whether its classification as an Accent 1 verbs was not just a mistake. We have no further examples of its kind.

totally failed to become a part of the borrowing language, or with time became obsolete as in (12j) and (12k). Of the twelve disyllabic English verbs that Stene (1940) lists, six received Accent 2 as in (12d) '*centre*$_2$ 'to centre', (12e) '*chartre*$_2$ 'to charter' and an additional six verbs with more compound-like structure received Accent 1, e.g. (12f, g). The two verbs consisting of more than two syllables, (12h) and (12i), both had Accent 1 at one time, although (12i) '*ka(p)pseise*$_2$ 'to capsize' has changed to Accent 2 today. This change in accent might have been analogous to the accentual pattern of other words beginning with *kapp*, e.g. '*kappgå*$_2$ 'to compete in a walking race', '*kappdrikke*$_2$ 'to take part in a drinking competition', '*kappkjøre*$_2$ 'to race (cars)'.

All in all, Stene (1940) shows us that monosyllabic verbs tend to adapt very well to the Norwegian system, as do some disyllabic verbs ending in /r/ – all of which have disyllabic infinitives with default Accent 2, as in (12d,e). The remaining few genuinely polysyllabic verbs are lexically specified for Accent 1. One interesting point here is that we have not yet encountered an example of an English loan coming into the system with Accent 2 and changing to Accent 1.

2.1.2. Complex verbs: Middle Low German loans

Now let us go further back in time to the very influential period of the Hanseatic League and focus on how MLG complex verbs made their way into Scandinavian. One interesting aspect of this large influx of MLG loans is that Scandinavian not only borrowed whole words, but they also borrowed numerous prefixes – both verbal and nominal. Most Scandinavian prefixes today are, in fact, either borrowed or modelled on MLG or High German prefixed forms.[72]

In Chapter 3 we mentioned the large amount of loan words coming into Scandinavian due to the influence of the Hanseatic League. Scandinavian was very receptive at the time to new prefixes. It is difficult to established exactly why ON so willingly welcomed prefixes, but one conjecture is that Proto-Norse syncope was fatal for most prefixes. It especially seems to have taken its toll on verbal prefixes. Here, only a handful survived into ON – all consisting of heavy syllables, and all of which are stressed and take Accent 2 in the modern dialects, as we mentioned in section 1.1, when considering the similarities between Swedish and Norwegian

72. It is often difficult to establish the source language between High German and MLG since the prefixes are so similar.

(Swedish: {'miss-}, {'jäm-}, {'sam-}, {'gen-}; Norwegian: {'mis-}, {'jam-/'jevn-}, {'sam-}, {'gjen-}, cf. also (6)).

We assume that the stress pattern of prefixed words before syncope was basically stress on the prefix for nouns, and stress on the stem for verbs. One reason for making this assumption is that the surviving prefixes either had heavy syllables, as we saw above for verbs, or they were nominal prefixes. An example of a surviving nominal prefix is the prefix {av-} < {af-}. Two of the few remnants of this prefix left today, in both Swedish and Norwegian, are *'avˌgift*$_{2}$ 'fee' and *'avˌund*$_{2}$ 'envy'. We can only attribute their survival to the fact that they must have bore stress – in contrast to most of the verbal prefixes. We, however, did also find one example of an ON prefixed verb, *afdœma*, which has survived in the Swedish verb *'avˌdöma*$_{2}$ 'to decide, judge' and in the Nynorsk verb *'avˌdømme*$_{1}$ 'to damn'. Note, that this apparently ON prefix has Accent 1 today in Nynorsk. Although this is a native stressed prefix, we believe it has Accent 1 because the majority of today's Swedish and Norwegian {av-} prefixed verbs were actually borrowed from MLG, or modelled on German prefixed verbs, which all have Accent 1 in Norwegian (Wessén 1958: 101), and this native {av-} has apparently joined this group. However, the number of surviving verbs with native prefixes such as {av-} is minimal. A second reason for assuming that nominal prefixes bore stress, and that the verbal prefixes did not, is because this pattern is still prevalent in many Germanic languages today (cf. Lahri, Riad & Jacobs 1999).

To sum up our arguments here, we believe that one consequence of Proto-Norse syncope is that it created an imbalance between the stress patterns of prefixed nouns and verbs, which was once in more or less complementary distribution. Nouns predominantly had stressed prefixes, and verbs unstressed prefixes. Another effect was that after syncope had eliminated most unstressed vowels, and with it unstressed prefixes as well, the only prefixed words remaining were for the most part nouns. This void left over from Proto-Norse syncope seems then to have been filled with new prefixed forms from MLG, and later with prefixed forms containing native components modelled on MLG.

To exemplify how early these loans came into Scandinavian we reproduce a list from Wetterlin, Lahiri, & Jönsson-Steiner (2007:354) giving the first dates of occurrence for {be-} verbs in Swedish and the corresponding verbs in Norwegian for comparison.

(13) First occurrence of {be-} verbs in Swedish

Swedish	Gloss	1st occurrence	Norwegian
bedröva$_1$	*to grieve*	1541	bedrøve$_1$
befalla$_1$	*to command*	1526	befale$_1$
bedåra$_1$	*to fascinate*	1616	bedåre$_1$
bebåda$_1$	*to proclaim*	1615	bebude$_1$
bedraga$_1$ (bedra$_1$)	*to deceive*	1525	bedra$_1$
beklaga$_1$	*to pity*	1526	beklage$_1$

Middle Low German influence on Scandinavian took place from the 13th to 16th centuries. However, these dates of first occurrence have been taken from the *Svenska Akademiens ordbok* (SAOB), which only consults texts back to the first half of the 16th century. Nonetheless, we maintain that these loans mark the beginning of Accent-1 infinitive verbs, which can be at least dated back to the beginning of the 16th century.

We have just seen approximately when MLG prefixes came into Scandinavian, and our hypothesis on why Scandinavian borrowed so many prefixes. Before presenting our analysis of how MLG complex words were incorporated into Scandinavian in section 3, we present a general hypothesis of how complex words are borrowed as undecomposed wholes in section 2.2. We then apply this hypothesis to MLG prefixed loans, and see why they affected an influx of new Accent-1 words into Scandinavian.

2.2. Hypothesis: Loanwords borrowed as undecomposed wholes

We can only speculate on how foreign prefixes actually made their way into Scandinavian, but based on studies of English, for example, we can assume that affixed words are first borrowed as undecomposed wholes, i.e., as monomorphemic forms. Speakers of the borrowing language are usually not aware of the internal make-up of these loanwords initially, and sometimes never become aware of it. Take for example the Norwegian loanword *slalom* in English. Not many people are aware – or were aware at the time it was borrowed (early 20th century) – that in its source language, *slalom* started out as a compound. However, often it is the case that complex loanwords are eventually detected as complex forms, i.e., later, when more words containing the same prefix or suffix are introduced into the language, speakers begin to notice the

similarities, and detect a complex structure. Only then do these words start to be seen as being composed of stem and affix, or of two constituents. This is something that never happened to the word *slalom* in English, German, or even in Swedish, most likely because no other *sla-* words were borrowed into these languages. Proof of its non-compound status in Swedish comes from its accent, which is Accent 1, instead of compound Accent 2.[73]

By examining Latin loanwords in English, i.e., words with the Latin suffix {-ity}, Lahiri & Fikkert (1999) found two different types of evidence indicating that affixed words are not borrowed as morphologically complex words in the eyes (or ears) of the borrower. Firstly, dates of first occurrences found in the *Oxford English Dictionary* revealed that words suffixed with {-ity} were borrowed by English speakers at earlier dates than their bases. Secondly, these differing dates can often be substantiated by differences in the meanings of the bases and the prefixed words – showing that they were not necessarily directly related (e.g. *sane* 'sound in mind' [1628], *sanity* '†bodily health' [1432], cf. Lahiri & Fikkert 1999:250). Thirdly, we can add, that there is also prosodic evidence of complex words being borrowed as undecomposed, as established by Lahiri & Dresher (1999), Dresher & Lahiri (2005). These studies found that borrowed nouns containing affixes can also be shown to have followed the metrical constraints of monomorphemic words.

We interpret this evidence as indicating that borrowed affixed verbs most likely also came into Scandinavian as morphologically simplex independent verbs. These verbs were then assigned Accent 1 – exactly like the polysyllabic English verbs that we just discussed in Stene's study, e.g. '*foxtrotte*$_1$ 'to fox trot' (Stene 1940).

2.2.1. Verbs with unstressed prefixes

Considering first the loans with unstressed prefixes, we know that verbs with unstressed prefixes all have Accent 1 in both Central Swedish and Standard East Norwegian. Our claim is that these complex verbs, e.g. *be'tale* 'to pay', came into the language, and were decomposed into base and affix, i.e., {be}{tale}, as more *be-* words were borrowed. The subsequent generations established a morphological relationship between the affixed verbs and that of the

73. According to the OED *slalom* was borrowed from Norwegian *sla* 'sloping' and *lom* 'track'. An interesting twist is that *slalåm* has Accent 2 in Norwegian, but in Swedish it is written *slalom* and has Accent 1. The reason for the discrepancy in accent and spelling is that Swedish borrowed *slalom* from English and assigned it Accent 1.

inherited non-prefixed counterparts (e.g. *betale* and *tale* (origins MLG, ON respectively)). Speakers, furthermore, became aware that the accent of the inherited bases ('*tale*$_2$ 'to speak') and that of the prefixed verbs did not coincide (*be'tale*$_1$ 'to pay'). The bases all had Accent 2, and the prefixed verbs Accent 1. Speakers naturally attributed the Accent 1 to the prefixes, i.e., in this case to the {bĕ} morpheme. Thus, the lexical specification came to be associated with the prefixes – and new words coined with these now lexically specified prefixes also received lexical Accent 1. We maintain that this process applies to all prefixed verbs, even to verbs with stressed particles (cf. (9)), and with stressed suffixes (cf. (4)).

The next question is why these words with unstressed prefixes received Accent 1 from the start? We believe that MLG loans with unstressed prefixes initially had Accent 1 because prosodically there were no similar words in the borrowing language for them to pattern after. As we just explained in section 2.1.2, ON no longer had words with unstressed prefixes. The majority of prefixed words had stress on the prefixes, and these were predominantly nouns. We can assume that these nouns most likely had Accent 2, because they still do in both languages today. Thus, because these new loan verbs did not have a native pattern to fit into, they received Accent 1, which we will discuss in more detail in section 3.

However, the explanation of why verbs with certain stressed prefixes have Accent 1 (and others do not) will require a bit more consideration. We also need to consider nouns with stressed prefixes to obtain the whole picture of how prefixed words, and especially loans, are incorporated into a language, which we do in section 2.2.3.

2.2.2. Verbs with stressed prefixes

We start out by investigating the following complex verbs – the first two of which are borrowed from MLG, and the third of which is modelled on a MLG verb using native components.

(14) MLG Loan verbs with stressed prefixes

Swedish	Norwegian	Gloss
'avkorta$_2$	'ǎvkorte$_1$	*to shorten*
'ankomma$_2$	'ǎnkomme$_1$	*to arrive*
'meddela$_2$	'mĕddele$_1$	*to announce*

In Norwegian, these complex verbs bear lexical specification for Accent 1, just like verbs with unstressed prefixes, and the polysyllabic loan verbs we saw in Stene (1940) listed in (12f-i). When MLG verbs with stressed prefixes were borrowed into the language, we claim that they received Accent 1, because – as we just argued for words with unstressed prefixes – they did not fit into a existing prosodic pattern. Although at that time we know that there were words with native prefixes, which were also bore stress, the majority of these words were nouns. These prefixed nouns have Accent 2 today in both Central Swedish and Standard East Norwegian (e.g. '*avgift*$_{\mathbf{2}}$ 'fee', '*avund*$_{\mathbf{2}}$ 'envy'). Indicating that the prefixes are lexically unspecified for accent. However, as we already mentioned, there were also a few verbs with native stressed prefixes that survived, because they were heavy as can be seen below in (15).

(15) Native stressed prefixed verbs with {mis-}, {jam-/jäm-}, {sam-}[74]

Swedish	Norwegian	Source	Gloss
'misslika$_{\mathbf{2}}$	'mislike$_{\mathbf{2}}$	ON mislíka	*to dislike*
'jämföra$_2$	'jamføre$_{\mathbf{2}}$	FS iämföra	*to compare*
'jämlika$_{\mathbf{2}}$ (†)	'jamlike$_{\mathbf{2}}$ NOUN	FS iämlika	*to compare*
'samtala$_2$	'samtale$_2$	FS samtala	*to converse*
'samordna$_2$	'samordne$_2$		*to coordinate*

These verbs all consist of native components, and all still exist today in both Swedish and Norwegian, therefore, we infer that there must have also been native verbs with stressed prefixes early in the development of Scandinavian when the MLG loans were coming in. Why then did the borrowed verbs with stressed prefixes not follow these existing patterns in Standard East Norwegian and receive Accent 2? Unlike the verbs with unstressed prefixes, which had no native pattern to conform to, these loans with stressed prefixes appear to have native examples to follow. Let us first take a step back and consider the whole picture of prefixed words, starting with nouns with stressed prefixes, which apparently did have a pattern to follow, before we give our analysis of verbs with stressed prefixes and all prefixed words in section 3.

74. The abbreviation "FS" refers to *fornsvensk* or Old Swedish and corresponds to a time period from 800–1526 AD (Wessén 1970).

2.2.3. Nouns with stressed prefixes

Up to now, we have maintained that nouns with stressed prefixes all follow the same pattern and have Accent 2. This applies to Central Swedish, however, in Standard East Norwegian this is not completely true, not all nouns with stressed prefixes have Accent 2. Some nouns with stressed prefixes have Accent 1 as can be seen below.

(16) Norwegian: Deverbal nouns with a suffix are Accent 1, else Accent 2

	Verb	Nominalization		Gloss (VERB/ NOUN)
		with suffix	else	
a.	'anfalle$_1$		'anfall$_2$	*to attack/ attack*
b.	'avtale$_1$		'avtale$_2$	*to agree /appointment*
c.	'anlegge$_1$		'anlegg$_2$	*to construct/ foundation*
d.	'anmelde$_1$	'anmeldelse$_1$		*to review/ report (crime)*
e.	'anordne$_1$	'anordning$_1$		*to prescribe/ ordinance*

The generalisation for Standard East Norwegian seems to be on the one hand, that if a prefixed noun has a nominalizing suffix, it is derived from a prefixed verb, and retains the lexical Accent 1 of the verb as in (16d) and (16e).[75] On the other hand, if the noun is not derived from the verb by the addition of a suffix, i.e., it is a zero derivation, it will have Accent 2. Our explanation for this accentual difference is that the prefixed nouns in (16a–c) are not derived, but borrowed independently from the verb and assigned Accent 2 in line with the pattern of native prefixed nouns. To support this claim, following Lahiri & Fikkert's (1999) study, we consulted etymological dictionaries to find out when these borrowed nouns and verbs were first noted in Scandinavian. Similar to Lahiri & Fikkert (1999), we also found that Scandinavian verb and noun pairs such as '*anfalle*$_1$ – '*anfall*$_2$ were in fact borrowed at different times, which we list below (adapted from Wetterlin, Lahiri & Jönsson-Steiner 2007).

75. Wiese (1996:295) also finds proof that these kinds of nouns in High German – that are prefixed with a nominalizing suffix – also "are derived from verbs or at least have a base which is verbal."

(17) First written occurrences of Norwegian prefixed verbs and nouns

Norwegian	1st occurrence	Gloss
'anfall$_{\mathbf{2}\ \text{NOUN}}$	1525	*attack (of disease)*
'anfalle$_{\mathbf{1}\ \text{VERB}}$	1544	*to assault*
'anbringe$_{\mathbf{1}\ \text{VERB}}$	1649	*to locate*
'anbringelse$_{\mathbf{1}\ \text{NOUN}}$	*derived from* 'anbringe$_1$	*location*
'anholde$_{\mathbf{1}\ \text{VERB}}$	1749	*to arrest*
'anholdelse$_{\mathbf{1}\ \text{NOUN}}$	*derived from* 'anholde$_{\mathbf{1}}$	*arrest*
'ankomme$_{\mathbf{1}\ \text{VERB}}$	1541	*to arrive*
'ankomst$_{\mathbf{1}\ \text{NOUN}}$	1565	*arrival*

This data allows us to infer two things. First, that the nouns with stressed prefixes, but without nominalizing suffixes, are most likely borrowed separately from the corresponding verbs. Second, that nouns with stressed prefixes and nominalizing suffixes are not borrowed, but most commonly derived from Accent-1 verbs.[76] We claim that prefixed nouns received Accent 2, and that verbs were assigned Accent 1 because of the prosodic and syntactic structures they had in the donor language. Therefore, to confirm this hypothesis, our next step is to examine how these words patterned in the source language.

2.3. Lexical accent as a result of differing patterns in Germanic

The disparity in noun/verb stress patterns of the donor languages from the existing native patterns (or lack thereof) was a crucial factor in the assignment of Accent 1 to the prefixed verbs, and Accent 2 to the prefixed nouns. We once again first consider the similarities, i.e., Germanic nouns with stressed prefixes in section 2.3.1, and then proceed to examine the verbs with stressed prefixes in section 2.3.2, presenting our final analysis in section 3.

76. This, however, does not apply to all words with stressed prefixes and nominalizing suffixes as we saw in '*påkjørsel*$_{\mathbf{2}}$ 'crash', which is not derived from a verb (cf. Chapter 3, section 3.2.4).

2.3.1. Prefixed nouns

Prefixed nouns in Germanic have a very constant stress pattern. The prefix always bears main stress. Contrary to words with unstressed prefixes, nouns with stressed prefixes fit into the regular Germanic compound stress pattern for constructs consisting of two prosodic words (cf. Booij 2002:116f, Wiese 1996:294). As we just saw in section 1.2, the regular compound accent rule assigns Accent 2 to two prosodic words with initial stress in both Standard East Norwegian and Central Swedish (cf. (10), (11)). In Standard East Norwegian, however lexical accent will intervene when it is present.

The fact that Scandinavian seems to have gone through a period, where all prefixed words were stressed on the prefix, and the majority of these were nouns, must have influenced the incorporation of nouns with stressed prefixes. These loanwords had a native Scandinavian pattern to follow, and the stress pattern did not alienate the Scandinavian language speaker, because the pattern of the source language did not differ from the native pattern. These prefixed nouns had main stress on the prefixes, which were inseparable from the base in both source and borrowing languages. It was a perfect match. Therefore, borrowed prefixed nouns like '*ankomst*$_2$ 'arrival' (MLG '*ankumpst,* Low German '*ankumst,* Dutch '*aankomst*), patterned no differently from inherited '*avund*$_2$ 'envy', and received compound stress following the pattern of the inherited stressed prefixed nouns.[77] Table (18) gives the stress patterns of prefixed nouns in the modern descendants of the main donor languages, i.e., MLG and High German.

(18) Stressed prefixes/particles in Germanic: Nouns

	Prefix		Accent		Examples
	inseparable	stressed	1	2	
High German	X	X			'ankommst
Dutch	X	X			'aankomst
Central Swedish	X	X		X	'ankomst$_2$
	X	X		X	'avund$_2$
East Norwegian	X	X		X	'ankomst$_2$
	X	X		X	'avund$_2$

77. MLG is closely related to Middle Dutch, both of which stem from Old Saxon. Due to the diversity of the Low German dialects and a lack of a standard form, we chose the more accessible relative Dutch as a representative for MLG. It is not directly a descendant of MLG but it fulfils a very important requirement: it has dictionaries that indicate stress location as opposed to Low German.

As can be seen in (18), the same Germanic pattern still exists in modern Central Swedish and Standard East Norwegian. Nouns with stressed prefixes are inseparable, main stress is on the prefix, and these words coincide in accent in both Swedish and Norwegian.

2.3.2. Verbs with stressed prefixes

There is not nearly as much congruency to be found in the patterns of verbs with stressed prefixes in the source and borrowing languages, as we can see in (19).

(19) Stressed prefixes/particles in Germanic: Verbs

	Prefix		Main stress	Secondary stress	Accent	
	separable	inseparable			1	2
High German	X		X			
		X		X		
Dutch	X		X	X		
		X				
Central Swedish		X	X			X
East Norwegian		X	X		X	

In High German and Dutch, there are two existing patterns for verbs with stressed prefixes. In one set, prefixes bear main stress and are separable from their base. In the other, prefixes bear secondary stress, while main stress is on the base, which cannot be separated from its prefix. In both Central Swedish and Standard East Norwegian, however, prefixed verbs are never separable, and prefixes either bear main stress, or no stress at all. That is, there are no similar prefixes that bear secondary stress, and none that can be separated from their base. However, as we know, Central Swedish and Standard East Norwegian differ in the accent of these prefixed forms: most verbs with stressed prefixes have Accent 2 in Central Swedish, and Accent 1 in Standard East Norwegian. Below we give examples of verbs with stressed prefixes in all four languages.

(20) Examples of stressed prefixes/particles in Germanic: Verbs[78]

	Prefix		
	separable	inseparable	
High German	'anmelden 'umkommen	um'geben	
Dutch	'aanmelden	om'komen om'geven	
		Accent 1	Accent 2
Swedish			'anmäla$_2$ 'omkomma$_2$ 'omge$_2$/'omgiva$_2$
Norwegian		'anmelde$_1$ 'omkomme$_1$ 'omgi$_1$	

The verbs with stressed prefixes in the donor languages did not have a corresponding pattern in Scandinavian. The same prefix could differ according to stress placement, as in High German {um-}, e.g. '*umkommen* 'to perish', *um'geben* 'to surround'. It can even differ with one and the same base, e.g. '*umfahren* 'to run over', *um'fahren* 'to circumscribe'. These patterns must have been immensely estranging, or at least seem quite peculiar to the speakers of Scandinavian at that time. Unlike the corresponding patterns found amongst Germanic prefixed nouns, the patterns of the prefixed verbs differed considerably, which we summarise in the following section.

2.3.3. Compilation of Germanic prefix patterns

Dutch and High German have a total of three patterns for verbs with prefixes: two for prefixes that bear some degree of stress, as we saw in (18), and one for unstressed prefixes. Unstressed prefixes are inseparable from their base in both Dutch and High German. Present-day Swedish and Norwegian only have two sets of prefixed verbs, one with unstressed prefixes, and one with stressed prefixes. Not to forget that Standard East Norwegian has an additional tonal differentiation distinguishing stressed prefixes and stressed particles – as we see below in (21). The table in (21) illustrates all the differing patterns for prefixed verbs today.

78. Glosses: German: '*anmelden* 'announce', '*umkommen* 'to perish', *um'geben* 'to surround'; Dutch: '*aanmelden* 'announce', *om'komen* 'to perish', *om'geven* 'to surround'; Swedish: '*omkomma*$_2$ 'to perish', '*omge*$_2$/'*omgiva*$_2$ 'to surround', '*anmäla*$_2$ 'to announce'; Norwegian: '*anmelde*$_1$ 'to review/report', '*omkomme*$_1$ 'to perish', '*omgi*$_1$ 'to surround'.

(21) Prefixed verbs in Germanic

	Prefix		Main stress	Secondary stress	No stress	Accent	
	separable	inseparable				1	2
High German	X		X				
		X		X			
		X			X		
Dutch	X		X				
		X		X			
		X			X		
Swedish		X	X				X
		X			X	X	
Norwegian		X			X	X	
(particle verbs)		X	X			X	
(stressed prefix)		X	X				X

The second row for Standard East Norwegian depicts the pattern for particle verbs, and the last row shows the pattern for stressed native prefixes (cf. (15)). These two forms only differ in accent. All in all, we can see here that High German and Dutch have three varying patterns that do not exist in Scandinavian. Loan verbs with stressed prefixes did not fit into the category of compounds like the nouns, since they were not clearly stressed on the initial syllable, and if they were, then they were separable from the root in the donor language. Likewise, as we sketched in section 2.2.1, there was no existing pattern for the verbs with unstressed prefixes – even though they were inseparable. Proto-Norse syncope had nicely taken care of that.

3. Final analysis for the incorporation of loanwords

We propose that the atypical prosodic patterns of the borrowed particle verbs that bore stress on the prefix in the source language led Swedish and Norwegian speakers to view them as single non-decomposed prosodic words, and to assign them Accent 1 as a special category. As we just saw in section 2.3.2, these words were *nonesuches* with no native pattern to follow. It is possible that the stress pattern originally even followed that of the donor languages, and later when these words were reanalysed as prefix-plus-root, led to the prefix being assigned main stress to differentiate these from the unstressed prefixed verbs. Moreover, these loans did not extend to changing syntactic structure of the borrowing languages, these verbs remained inseparable. This class of words was treated as *special* and accordingly assigned lexical Accent 1. Just like the verbs with unstressed prefixes, that after Proto-Norse syncope also had no pattern to follow, since Proto-Norse syncope had eliminated all native words with unstressed prefixes.

In the following, we summarise how we envision that MLG loans originally came into Scandinavian, first going step by step through our analysis for all prefixed verbs and nouns. We then give our explanation for why we consider Swedish accent assignment to be the innovation in section 4.

3.1. The incorporation of prefixed loanwords in Scandinavian

The following is a summary of our findings for the incorporation of West Germanic loans into Scandinavian.

(22) Analysis of loanword incorporation

(a) Unlike the prefixed verbs discussed in section 2.3, nouns, such as '*anfall*$_2$ ‘attack’, are borrowed as compounds made up of two prosodic words {an}$_\omega${fall}$_\omega$ based on other nouns with stressed prefixes inherited from ON, i.e., with the stressed prefixes {mis-}, {sam-} (cf. '*misbruk*$_2$ ‘misuse’, '*samtale*$_2$ ‘conversation’) etc. These nouns all have Accent 2 throughout the tonal dialects. Regular compound accent assignment applies. The prefixes do not bear any separate lexical accent (i.e., {an-}$_{\text{NOUN}}$), and the complex forms are given default Accent 2.

(b) Verbs, like *be'stemme* ‘to decide’ with unstressed prefixes are borrowed undecomposed as verbs in their own right. They are borrowed separately from their bases, as a special class, since they did not fit into any existing pattern. Later, they were decomposed and the prefix morphemes became lexically specified for Accent 1, i.e., {bĕ-}.

(c) Particle verbs, such as verbs with initial {an-} and {om-}, which have stressed or secondary stressed prefixes in the donor languages, are also borrowed separately and undecomposed. Even though a few original stressed prefixed verbs did exist with prefixes like {mis-} and {sam-}, there were none with secondary stress like {um-}/ {om-}. Moreover, the original stressed prefixed verbs were not separable as they were in the donor languages. Thus these loan verbs did not fall into any existing pattern, and were therefore put into a special class, and like most other special categories they took on Accent 1. At a later stage, they were decomposed and the prefixes took on the lexical specification of bearing Accent 1, i.e., {ăn-}$_{\text{VERB}}$, {ŏm-}$_{\text{VERB}}$, and all other particle verbs formed with native elements followed this established pattern, e.g. {t̆il-}$_{\text{VERB}}$ ('*tilkjempe*$_{\mathbf{1}}$ ‘to gain (by struggle)’), {p̆å-}$_{\text{VERB}}$ ('*påtale*$_{\mathbf{1}}$ ‘to protest against’), {mŏt-}$_{\text{VERB}}$ ('*motstå*$_{\mathbf{1}}$ ‘to resist’).

(d) All nouns derived from these verbs with nominalizing suffixes take Accent 1 because the lexical specification of the prefix dominates (e.g. '*ănbringelse*$_{\mathbf{1}}$ ‘attachment’, '*ŏmstilling*$_{\mathbf{1}}$ ‘readjustment’). Here we have to mention that this does not hold for nominal derivations made with {-er} (cf. '*anmelde*$_{\mathbf{1}}$ ‘review (book)’, '*anmeldelse*$_{\mathbf{1}}$ ‘critique’, but *anmelder*$_{\mathbf{2}}$ ‘critic, reviewer’). Complex derivations are discussed in Chapter 3, section 3.2.4.

The discussion of one borrowed prefix, namely {bi-}, we saved for last, since it seems to be the only stressed prefix to have found a Scandinavian pattern to follow ('*bifalle*$_{\mathbf{2}}$ ‘to approve’). This stressed prefix was possibly treated differently from the other stressed prefixes, because it was very familiar to Scandinavian, since ON had once had an inherited {bi-} prefix itself. However, in High German and Dutch, {bei-}/{bi-} is a stressed separable prefix just like {an-}. Therefore, it is not fully transparent why it found a pattern to follow. The other stressed particles have Accent 1 when prefixed to verbs, and Accent 2 when prefixed to nouns.

Nonetheless, {bi-} follows the pattern established by the native prefixes {mis-}, {gjen-}, {sam-}. In Standard East Norwegian today, there is also an adverb *bi* 'by' that was borrowed from MLG. However, the prefix {bi-} does not necessarily have to be associated with this adverb, since {bi-} is listed in the dictionary (*Bokmålsordboka*) as a true prefix, not as a particle as, for instance, {an-} is listed. These words were possibly seen as complex verbs from the start, since ON had once had a {bi-} prefix, and {bi-} was recognized as a genuine prefix when it was borrowed, and that is why it patterns with the other genuine stressed native prefixes. Thus, all words prefixed with {bi-} are Accent 2, because {bi-} is not lexically specified and we have one more scenario to add to our list in (22).

(22) (e) Verbs, with the stressed prefix {bi-} were recognized as morphologically complex, and thus followed the pattern of the few original stressed prefixed verbs with the genuine prefixes {mis-} and {sam-}. They all take default Accent 2.

4. Swedish compound accent assignment: The innovation

Now we can finally return to our original question of why Swedish and Norwegian differ in the accent of stressed prefixed words and compounds, and perhaps hint at why monosyllables are special. Our claim is that Standard East Norwegian reflects an older stage than Central Swedish. That is, the incorporation of loans just discussed in section 3.1 depicts the original state. Monosyllabic stressed prefixes like {om-}, {an-} have since then lost their lexical specification in Central Swedish, but have retained it in Standard East Norwegian. Central Swedish underwent a lexical change such that all stressed prefixes, which behave like prosodic words, took **regular** compound Accent 2. This must have also influenced the status of monosyllabic nouns as first constituents of compounds in Central Swedish, which have the same structure as words with stressed prefixes, eventually annulling their specification for Accent 1. If there were any monosyllabic borrowed words with lexical Accent 1, they would have lost their underlying accent since compounding provided the language learner with essential cues for detecting whether a word has lexical specification or not. The learner of Swedish or Norwegian could not depend on inflection for revealing the lexical specification of monosyllabic nouns, because these very often have monosyllabic plural forms.

Neither in Norwegian, nor in Swedish do we find any proof for there ever having been a surface opposition in monosyllabic words. However, we believe that Danish possibly has relics indicating that monosyllabic words did indeed once differ in accent, and even when suffixed with the regular plural ending *-er*. Once again we have to look at loanwords, and we see that the English loanword '*hall*| 'hall', '*hall*|*er* 'halls' has Accent 1 or stød in the singular and plural.[79] As opposed to words such as '*hus* 'house' and '*venn* 'friend' that do not have stød in the singular, or the plural, e.g. '*huser* 'houses' '*venner* 'friends' (examples from Basbøll 2005:433ff). However, this is merely speculation, more research would have to be done with Danish to see whether this claim holds true.

The generalisation that monosyllabic words with inflections had Accent 2 then spread to all compounds in Central Swedish – and lexical specification was lost. Even lexically specified polysyllabic first constituents no longer had any influence in compounds. Consequently, we do not find Accent-1 compounds in Central Swedish, except for the few remnants, i.e., Accent-1 compounds that make up special classes today, such as days of the week, names of berries, among others (cf. (1)). However, we do find these and other Accent-1 compounds in East Norwegian and Southern Swedish as we saw in Chapter 4.

Further evidence for the novelty of compound accent assignment in Central Swedish to all constructions consisting of two prosodic words is that there is a dialect located in Central Sweden (Älvdalsmål), which has progressed even one step further by apparently generalising Accent 2 to all prefixes, even to unstressed prefixes. Älvdalsmål is generally considered to be one of the most archaic dialects in Sweden, since it still has certain rare vestigial consonants and cases otherwise long forgotten/lost in most Swedish dialects – amongst other curiosities. However, Älvdalsmål also contains innovations to which generalising Accent 2 to derivations with unstressed prefixes could also belong. Riad (1998a:86, Fn 29) speculates, that the fact that such an archaic dialect as Älvdalsmål has Accent-2 words containing unstressed prefixes like *bi'gripa*$_2$ 'to understand' and *för'derva*$_2$ 'to ruin', could perhaps be proof that older stages of Swedish had Accent 2 in forms with unstressed prefixes. However, Jönsson-Steiner & Lahiri's (2006) manuscript on the poetic manual and poems by the 18th century poet Anders Nicander renounces this claim. A study of Nicander's rules for rhyming words and his own rhymes

79. We indicate the presence and position of stød with a straight vertical line "|" as after the < l > in *hall*|*er*.

showed that derivations with unstressed prefixes must have been Accent 1 as long ago as in Nicander's day (1707-1781).

We have now given our analysis of why so many loanwords have Accent 1 and of why Central Swedish and Standard East Norwegian differ in the accent assignment of words with stressed prefixes. We now zero in on the properties of Accent 1, and why it is the lexical accent.

5. Monosyllables, irregularities and Accent 1

Like most loanword adaptations, Scandinavians integrated MLG/High German and English loans to their grammars as best as they could. Loanwords did not introduce Accent 1 to Scandinavian, the accent opposition between Accent-1 and Accent-2 words was already there. However, they did help to fortify the number of Accent-1 words. When MLG loans were coming into the language, Accent 1 was already the lexical **unpredictable** accent assigned to distinctive categories like the following:

(23) Accent-1 words: Distinctive categories (Standard East Norwegian)

Days of the week:	*mǎndag* 'Monday', *tiršdag* 'Tuesday', *ǒnsdag* 'Wednesday', *tǒrsdag* 'Thursday', *frĕdag* 'Friday', *lǒrdag* 'Saturday', *šønndag* 'Sunday';
Names of the month:	*jǎnuar* 'January', *fĕbruar* 'February', *mǎrs* 'March', *ǎpril* 'April', etc.
Country names:	*Tỹskland* 'Germany', *Itǎlia* 'Italy', *Chĭle* 'Chile', etc.[80]
Names of berries:	*bĕringebær* 'raspberry', *bjǒrnebær* 'blackberry', *blǎbær* 'blueberry', *kiršebær* 'cherry', etc.
Kinds of wines:	*rǒdvin* 'red wine', *hvĭtvin* 'white wine', *dĕssertvin* 'dessert wine', *bŭrgundervin* 'burgundy', ect.
Certain monosyllabic native nouns:	*skǒ* 'shoe', *bỹ* 'city', *kŭ* 'cow' etc.

80. Only a very few country names have Accent 2: '*Norge*$_2$ 'Norway', '*Danmark*$_2$ 'Denmark', and the compound '*Østerrike*$_2$ 'Austria'.

We claim that Accent 1 is the accent that most loanwords have, because they, in some way, did and do not fit into the native Scandinavian system. Quite often the reasons for not fitting are phonological – some of the regularities of what does not fit are listed below.

- Words ending in vowels other than schwa usually have Accent 1 in Norwegian (Kristoffersen (2000:256). Similar rules can be made for Swedish as well.
- Words with final stress receive Accent 1, not only because of the Disyllabic Trochee Rule, but because they are lexically specified most likely due to their stress pattern not matching up with native stress patterns.
- Polysyllabic verbs are assigned Accent 1, presumably because native Scandinavian verb stems are generally monosyllabic.

Some loanwords, however, do fit into a Scandinavian pattern and are not lexically specified. Many fit in right from the start, for example, English monosyllabic verb stems such as 'to smash' '*smashe*$_{\mathbf{2}}$ or adjectives like 'smart' *smart*. These both take Accent 2 when a trochee is available, i.e., with inflections that add at least a syllable. Only when *smart* makes up the first member of a compound, does its foreignness surface, e.g. in '*smartkort*$_{\mathbf{1}}$ 'smart card'. Other loanwords not only have Accent 1, but they also do not inflect for number or gender, such as *sja'lu* 'jealous', as we saw in Chapter 3. Some words just take longer to fit in, such as the monosyllabic noun *serve* 'serve*'* that Stene (1940:159) listed with two possible plural suffixes, the English {-s} and Norwegian {-er}. Today *serve* is still monosyllabic but according to the *Bokmålsordlista*, it now only has one plural ending, i.e., the Norwegian regular plural ending {-er}. Yet still other foreign words never fit in, and do not become part of the native vocabulary at all, and thus are not found in the dictionary.

We must remind you, and emphasise the fact, that not all Accent-1 words are loans, and not all loans bear Accent 1. Accent 1 is the special accent, the accent of nonesuches, the accent of words belonging to special categories that do not follow regular rules. It is the accent that must be stored in the lexicon. If any one of the two accents should have idiosyncrasies, we would expect it to be the lexical accent, the one that does not follow rules. And indeed, Accent-1 words do not always behave as we would predict.

However, there are many reasons behind the peculiar behaviour of Accent 1, as for example, loanword incorporation: The desire to incorporate new words also means one tries to

fit them into existing patterns. If possible, a word will follow regular rules and receive default Accent 2 wherever it can. We can name three groups of words that fit in – all monosyllabic:

(24) Monosyllabic loans that fit native patterns

a. Unlike most loans, all borrowed monosyllabic verb stems get Accent 2 and follow regular inflection, e.g. '*campe*$_{\mathbf{2}}$ 'to camp', '*camper*$_{\mathbf{2}\text{PRES}}$, '*campa*$_{\mathbf{2}}$/'*campet*$_{\mathbf{2}\text{PRET}}$, '*campa*$_{\mathbf{2}}$/ '*campet*$_{\mathbf{2}\text{PERF}}$.

b. All monosyllabic nouns – if they have a disyllabic plural form – will have default Accent 2 in the plural, e.g. *bǎll,* '*bǎller*$_{\mathbf{2}}$ 'ball/balls (dance)'.[81] This applies to unspecified monosyllabic nouns as well as to lexically specified, i.e., even if they produce Accent-1 compounds (regardless of whether they are borrowed or belong to a special category).

c. Monosyllabic lexically specified nouns also have Accent 2 when an unspecified derivational suffix is added, e.g. '*tǎktfull*$_{\mathbf{2}}$, 'tactful', '*kǔnstig*$_{\mathbf{2}}$ 'artificial'.

This shows us that the lexical specification of monosyllabic words is not as stable as in polysyllabic words. This is, however, quite understandable, since monosyllabic words have an underlying accent distinction, which only ever surfaces in compounds. There are a few native *tendencies* working against the transparency of the lexical specification of monosyllabic words:

- A monosyllable plus inflection is the most widespread pattern in Scandinavian – of course this pattern has default Accent 2 (for nouns, verbs, adjectives);
- The structural requirements of Accent 2 prevents the accent opposition in monosyllables from being visible.

These tendencies make it much more difficult for language learners to elicit whether a monosyllable is lexically specified or not. There are many more ways to pick up on the lexical specification of polysyllabic words, because their lexical specification is always visible.

81. The neuter noun '*ball* can also have a Ø plural ending and thus have Accent 1 in the plural – in line with most monosyllabic neuter nouns.

Another area where the lexical specification of monosyllables becomes quite fuzzy is in complex derivations. More specifically, the derivation of verbs with lexically specified stressed prefixes are not as consistently Accent 1 as the derivations of unstressed prefixed verbs. Here the language learner is put before a difficult task. Verbs with stressed prefixes, e.g. '*anlegge*$_{\mathbf{1}}$ 'to construct', have Accent 1, whereas nouns with the same stressed prefix have Accent 2 '*anlegg* '(process of) founding'. Therefore, the accent of derivations with these stressed prefixes is not always as clear-cut as with the unstressed prefixes, which are Accent 1 in both nominal and verbal constructions. Often deverbal derivations take Accent 1, e.g. '*anmeldelse*$_{\mathbf{1}}$ 'critique', yet derivations with the suffix {-er} quite often take Accent 2, e.g. '*anmelder*$_{\mathbf{2}}$ 'critic'. It appears as if these are denominal derivations with the prefix {an}$_{\text{NOUN}}$, and not deverbal derivations with the lexically specified prefix {ǎn}$_{\text{VERB}}$. However, often there is no corresponding prefixed noun, in this case **anmeld*$_{\mathbf{2}}$. As testimony of the opaqueness of these forms, one often finds {-er} derivations where Accent 1 or Accent 2 are both possible, e.g. '*omforme*$_{\mathbf{1}}$ 'to reform', '*omformer*$_{\mathbf{1/2}}$ 'reformer'. It is no wonder that a language learner might deduce that a complex form containing the nominal {-er} suffix and a stressed prefix, e.g. {an}, has the unspecified nominal allomorph {an}$_{\text{NOUN}}$, and thus gives the derivation Accent 2 (e.g. '*anmelder*$_{\mathbf{2}}$), and a noun with the same stressed prefix but a deverbal suffix such as {-else} has the lexically specified verbal counterpart {ǎn}$_{\text{VERB}}$ and Accent 1.

These oddities all lie in the true nature of Accent 1. Accent 1 is the exception, and it does not follow general rules, and therefore has to be stored in the lexicon. Analyses that claim that Accent 2 is the lexically specified accent, and Accent 1 is the default, i.e., follows the rules, have to account for all of the peculiarities of Accent 1. One such peculiarity is the fact that all compounds in Central Swedish have lexical accent (Accent 2 in these approaches), whereas only a few special categories take what they assume is the default Accent 1. They have to lexically specify almost all inflectional endings and derivational suffixes, and even native words ending in schwa.

6. Final comments

Loanword incorporation appears to play a big role in all of the answers to the questions we formulated in the beginning of this chapter.

- Why are most lexically specified words or affixes loans?
- How are loanwords incorporated into a language?
- What makes Accent 1 the lexical accent?
- Why does accent assignment in Central Swedish and Standard East Norwegian differ?
- What is the special status of monosyllables?

The difference in accent distribution in Norwegian and Swedish follows from the fact that accent assignment in East Norwegian represents an earlier stage of loanword incorporation than Central Swedish. Loanwords coming into a language will get default Accent 2, if they can be accommodated by the phonological patterns of the borrowing language. If not, they receive Accent 1, because it is the accent of nonesuches, of exceptions, of words that do not fit into the patterns available to native speakers. It is the accent that is lexically specified. Monosyllabic loanwords are more apt to fit into the Scandinavian phonological patterns than polysyllables. They might have come into the language with a surface opposition, as we see in Danish, however, since they take regular inflectional endings and receive default Accent 2 in modern Norwegian, we conclude that they have a form that fits better into the Scandinavian phonological templates than polysyllabic words. Indeed, the disyllabic trochee – a form which monosyllables have when suffixed – is a very common template for a Scandinavian word. Although monosyllables today have no accent opposition on the surface and take default Accent 2 when suffixed with most inflectional or derivational suffixes, we posit that they have an underlying tonal opposition. The fact that this opposition only surfaces in compounds makes it difficult for the language learner to discern this opposition. Therefore, lexical accent is not as visible in monosyllabic words as it is in polysyllables, and it does not surprise us that there are also Norwegian dialects with varying numbers of Accent-1 compounds, which appears to be going in the direction of decreasing the number of Accent-1 compounds, not increasing it.

CHAPTER 6
TONAL ALIGNMENT IN AN EAST NORWEGIAN DIALECT

We have predominantly been concerned with accent assignment in Standard East Norwegian thus far. In Chapter 3, we explained that our approach indicates lexical specification with a diacritic, instead of designating a H or L tone as the lexical tone, because of the dialectal differences in the phonetic realisation of lexical accent. We now take a brief excursion into the acoustic correlates of accent opposition in an East Norwegian dialect.

The object of investigation is the dialect spoken in the city of Trondheim, Norway's third largest city. The dialects in this area demarcate the north end of the East Norwegian dialect area. The phonetics of the tonal accent opposition in the Trondheim dialect has not been the object of many studies, but we will be able to compare our findings to Fintoft (1970), and to two other East Norwegian dialects in Kristoffersen (2006d).

This chapter is organised as follows. In section 1.1, we review two acoustic analyses of tonal alignment for Oslo Norwegian to set the stage for what is characteristic for East Norwegian dialects. Section 1.2 presents the findings for acoustic analysis of two additional East Norwegian dialects, and section 1.3 reports Fintoft's (1970) findings for Trondheim Norwegian. Section 2 introduces our acoustic study on the Trondheim dialect, describing the materials, procedure and acoustic analysis in sections 2.1.1–2.1.3. Section 2.2. presents our preliminary findings with section 2.2.1 giving an account of the findings for non-prefixed nouns and section 2.2.2 for prefixed and non-prefixed verbs. Section 2.2.3 summarises these findings and section 2.2.4 then backs up the contrastive traits found in the Accent-1 and Accent-2 pitch curves for these words with statistical analyses (an ANOVA and related post hoc test).

1. Previous acoustic analyses of East Norwegian dialects

When considering the acoustic correlates for Accent 1 and Accent 2 in a particular dialect, there are two fundamental ways of looking at the contrasting tonal accents. First, the two accents can be looked at paradigmatically, i.e., each accent examined separately to see what typical traits each accent may possess. Second, the opposing accents are looked at comparatively to determine what differentiates Accent 1 from Accent 2, and what possible acoustic cues are available to the listener to aid in the recognition of the tonal accents. In the following, we look at two acoustic analyses of Standard East Norwegian and how they have been analysed paradigmatically and comparatively.

1.1. Standard East Norwegian

The Norwegian dialect most often referred to when describing Norwegian tonal accents is called Urban East Norwegian by Kristoffersen (2000, 2006d), and the Oslo dialect by Fintoft (1970). Both terms in principle correlate to what we call Standard East Norwegian. We use this dialect as the prototype for the East Norwegian dialect group, and use it as more or less a baseline to compare our findings for Trondheim Norwegian to see where Trondheim Norwegian's place is in this group.

We start out by looking at the earlier of the two analyses, Fintoft (1970), which investigates the acoustics of tonal word accents and their perception for the dialects of Oslo, Bergen, Stavanger, Ålesund and Trondheim. He elicits the following minimal pairs from all speakers for his acoustic analysis.[82]

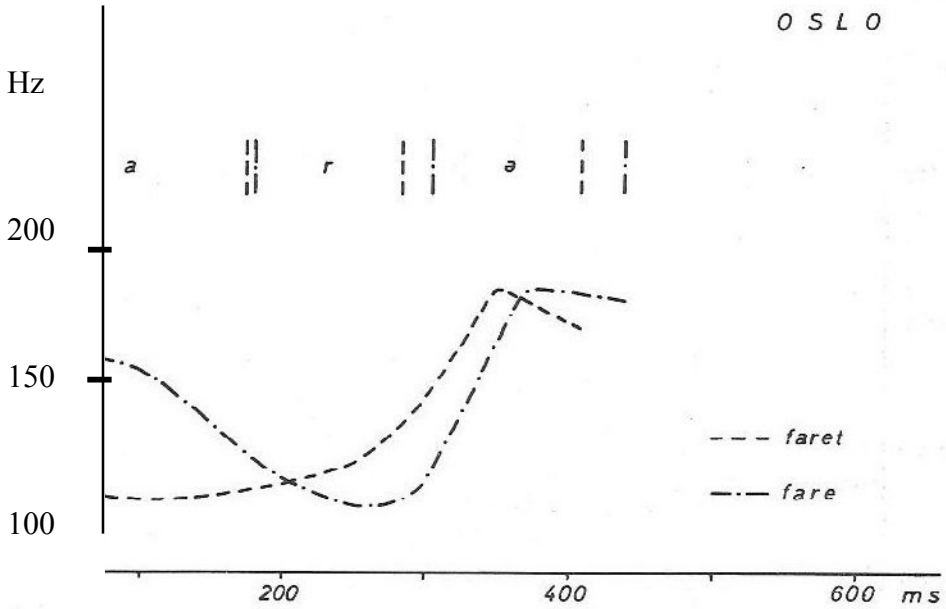
(1) Fintoft's (1970) test words

'*faret*$_1$ 'track/the'	–	'*fare*$_2$ 'danger';
'*ordet*$_1$ 'word/the'	–	'*orde*$_2$ 'to discuss';
'*livet*$_1$ 'life/the'	–	'*live*$_2$ 'to live';
'*lammet*$_1$ 'lamb/the'	–	'*lame*$_2$ 'to paralyse';
'*smilet*$_1$ 'smile/the'	–	'*smile*$_2$ 'to smile'

82. These are all minimal pairs because the neuter definite article *-et* is pronounced as a schwa. The <t> that follows in the orthography is silent.

Fintoft (1970) describes the two distinct contours for Accent 1 and Accent 2 that he obtained for these words from the speakers of Oslo Norwegian as follows. Starting from the onset of the main stressed vowel, he describes Accent-1 words as having "a level (not falling) – then rising contour", and Accent-2 words as having "a falling–rising contour" (Fintoft 1970:201). Fintoft's pitch contours for *'faret*$_1$ [fa:rə] 'track/the' and *'fare*$_2$ [fa:rə] 'danger' are given in (2).

(2) Accent-1 and Accent-2 contours for Oslo dialect (Fintoft 1970:197)



This figure represents the average fundamental frequency (F0) contours obtained for these homophones based on the contours produced by 12 male speakers of Oslo Norwegian. Test words were extracted from the phrases: *i dette faret* 'in this track', *en voldsom fare* 'an awful danger'.[83] Fintoft (1970) instructed the speakers to pause before each test word to simplify extraction of the word from the other speech material. It should be noted that this pause, possibly annuls any effects of phrasal intonation. Thus, the intonation of these test words can

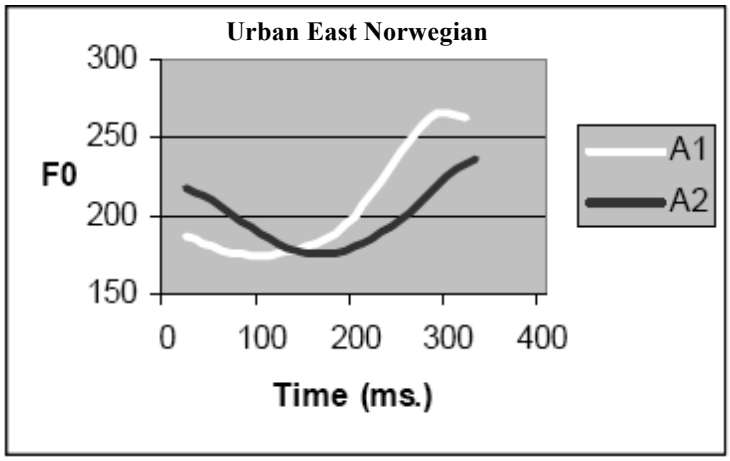
[83]. Test phrases for the other minimal pairs were: *komme til ordet* 'make oneself heard'; *det ene ordet* 'the single word'; *han er i livet* 'he is alive'; *for hele livet* 'for my whole life'; *frykten kan lamme* 'fear can paralyse'; *det hvite lammet* 'the white lamb'; *å kunne smile* 'to be able to smile'; *det pene smilet* 'the pretty smile'.

most closely be equated to the contours of words spoken in isolation. The F0 contours in (2) commence at the onset of the main stressed vowels.

The contours that Fintoft (1970) elicited for the all the minimal pairs listed in (1) had shapes similar to those depicted in (2). One characteristic trait he found present in both Accent-1 and Accent-2 contours is the rise on the second syllable. Looked at in comparison, the most significant trait differentiating the opposing accents Fintoft (1970) found to be the fall on the stressed syllable of Accent 2, which Accent-1 words do not have. In phonological terms, this opposition could be described as a LH vs. HLH tone sequence for Accent-1, and Accent-2 words, respectively.

In more recent studies, the difference in Accent 1 and Accent 2 of Standard East Norwegian has indeed been analysed as a phonological LH contour for Accent 1, and a HLH contour for Accent 2 (cf. Kristoffersen 2000:237f). Kristoffersen (2000) also views the final LH contour of both accents as identical. Representative contours adopted from Kristoffersen (2006d) are given for Standard East Norwegian below in (3).

(3) Tonal alignment in Urban East Norwegian (Kristoffersen 2006d:10)



The representative disyllabic contours depicted here also begin with the onset of the stressed vowel. Unfortunately, however, Kristoffersen (2006d) does not specify what words are represented by these F0 contours, and does not indicate syllable boundaries. We can only assume that the different F0 values at the beginning of the contours are not caused by the preceding consonants.

If we compare these representative contours with those reported by Fintoft (1970) (cf. (2)), we see that the contours are very much alike. Accent 1 in Kristoffersen's data has a slight fall on the stressed vowel, that is a bit more pronounced than the Accent-1 contours elicited by Fintoft, which Fintoft describes as "non-falling". However, both Accent-1 and Accent-2 contours rise in the second half of the contours elicited by Kristoffersen, as well as by Fintoft. Even though Accent 1 and Accent 2 look indeed very similar in both studies, the absence of syllable boundaries in Kristoffersen's data renders a more exact comparison of the data difficult.

Kristoffersen (2006d) is predominantly concerned with locating the cues that differentiate the two accents, and in figuring out how these East Norwegian dialects can be phonologically analysed as belonging to the same group. Two apparent differences in the Accent-1 and Accent-2 contours here are: first, that the height of F0 at the onset of the stressed vowels differs, and second, that the timing of the L differs according to tonal accent. As already mentioned, we can only assume that the height of the vowels at the onset is not due to the preceding undefined consonants. Pertaining to the difference in timing, Kristoffersen (2006d) assumes that Accent 2 has an additional H tone, which displaces the L to later in Accent-2 words than in Accent-1 words lacking this extra tone (Kristoffersen 2006d:10). That is to say that Accent 1 and Accent 2 both have LH contours, but, Accent 2 has an additional H in the beginning, which also has to be realised within these disyllabic words. Thus, to accommodate the additional tone, L is displaced to the right.

In sum, according to Fintoft (1970) and Kristoffersen (2000, 2006d) we have the following acoustic traits for Standard East Norwegian.

(4) Acoustic traits for Standard East Norwegian

a. Paradigmatically seen:

Accent 1:
- Level (not falling) then rising contour (Fintoft 1970)
- LH phonological representation (Kristoffersen 2000, 2006d)

Accent 2:
- Fall-rise contour (Fintoft 1970)
- HLH phonological representation (Kristoffersen 2000, 2006d)

b. Comparatively seen:

Accent 1: • Lower F0 at onset of first vowel (Kristoffersen 2006d)
• Earlier F0 minimum (Fintoft 1970, Kristoffersen 2006d)

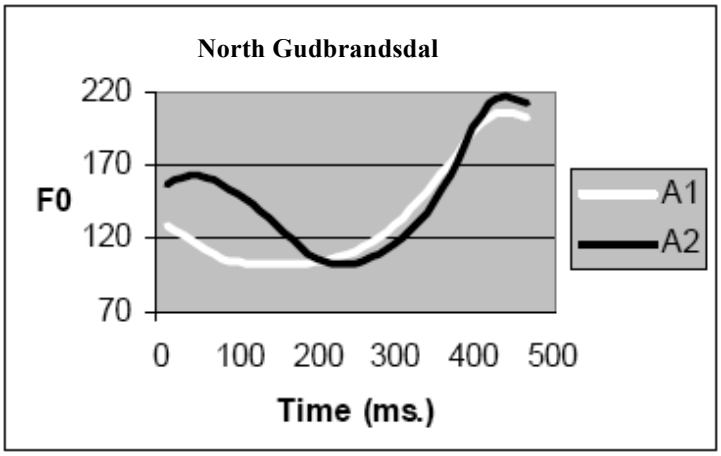
Accent 2: • Higher F0 at onset of first vowel (Kristoffersen 2006d)
• Later F0 minimum (Fintoft 1970, Kristoffersen 2006d)

Now let us move on to examine what traits the acoustic analyses for other East Norwegian dialects ascertain.

1.2. North Gudbrandsdal & Oppdal Dialects

Kristoffersen (2006d) looks at two other East Norwegian dialects and gives the following representative contours in (5 & 6) to illustrate the Accent-1 and Accent-2 opposition. We start with Accent-1 and Accent-2 in North Gudbrandsdal Norwegian in (5).

(5) Representative disyllabic pitch contours: North Gudbrandsdal (Kristoffersen 2006d:10)

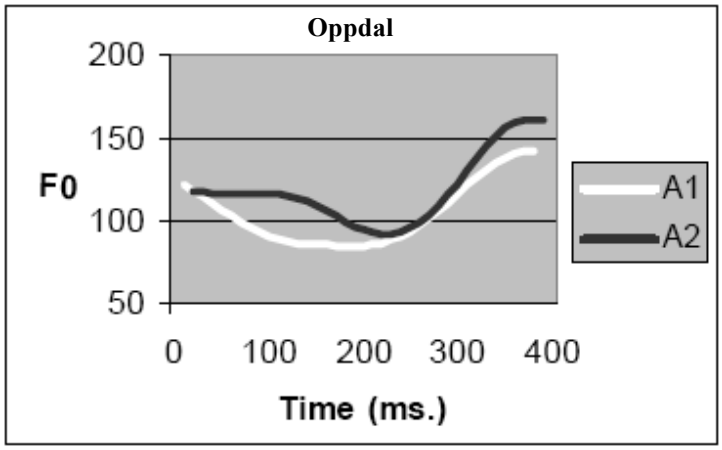


Similar to Urban East Norwegian, Kristoffersen (2006d) also sees the height of the vowel onsets, and the timing of the F0 minima as two potential cues for tonal opposition in North Gudbrandsdal Norwegian. Here the L of Accent 2 occurs even later than in Urban East Norwegian, roughly between 200–300 ms as compared to 100–200 ms for Urban East Norwegian (cf. (3)). However, we also have to take into consideration when comparing

Kristoffersen's (2006d) contours, that the contours for North Gudbrandsdal are longer (500 ms) than either the Urban East Norwegian contours (350 ms), or the Oppdal contours (400 ms).

Phonologically, Kristoffersen (2006d) sees both accents in North Gudbrandsdal Norwegian as having a HLH representation. In our view, the pitch contours for Accent 1 and Accent 2 in this dialect appear to be very similar to Fintoft's (1970) contours for Oslo Norwegian in (2), which most often is rendered as a privative L*-H* opposition for Accent 1 and Accent 2, respectively. That is to say, that there is a L attached to the stressed syllable in Accent-1 words, and a H for Accent-2 words. We perceive a definite L*-H* opposition on the stressed syllable here in North Gudbrandsdal Norwegian as well. Therefore, we do not believe it would be difficult to justify a privative analysis for the North Gudbrandsdal dialect, contrary to Kristoffersen's (2006d) claim that this dialect resists a privative analysis, because of the identical HLH representation for both accents. Let us now look at the contours for the second East Norwegian dialect, Oppdal Norwegian.

(6) Representative disyllabic pitch contours: Oppdal Norwegian (Kristoffersen 2006d:9)



The difference in the height of vowel onsets, as seen in the Standard East Norwegian and North Gudbrandsdal contours (cf. (3) and (4)), is missing here in the Oppdal contours. Nevertheless, as for the North Gudbrandsdal dialect, Kristoffersen also assumes that the representation for both Accent 1 and Accent 2 in the Oppdal dialect to be HLH. Kristoffersen, thus, maintains that the tonal opposition in these dialects can only be captured with a timing analysis, and not with a privative analysis. The difference between the word accents he sees as residing in the timing of the HLH contour in relation to the syllable structure. The fall in Accent 1 commences from the onset of the vowel, reaching its nadir earlier than in Accent 2. In

Accent 2, the fall starts more than 100 ms later. Once again it is difficult to relate to syllable structure without any syllable boundaries, but we clearly see a L*-H* opposition at about 100 ms, which we assume is within the stressed syllable. This, we believe, would allow for a privative analysis of this dialect as well.

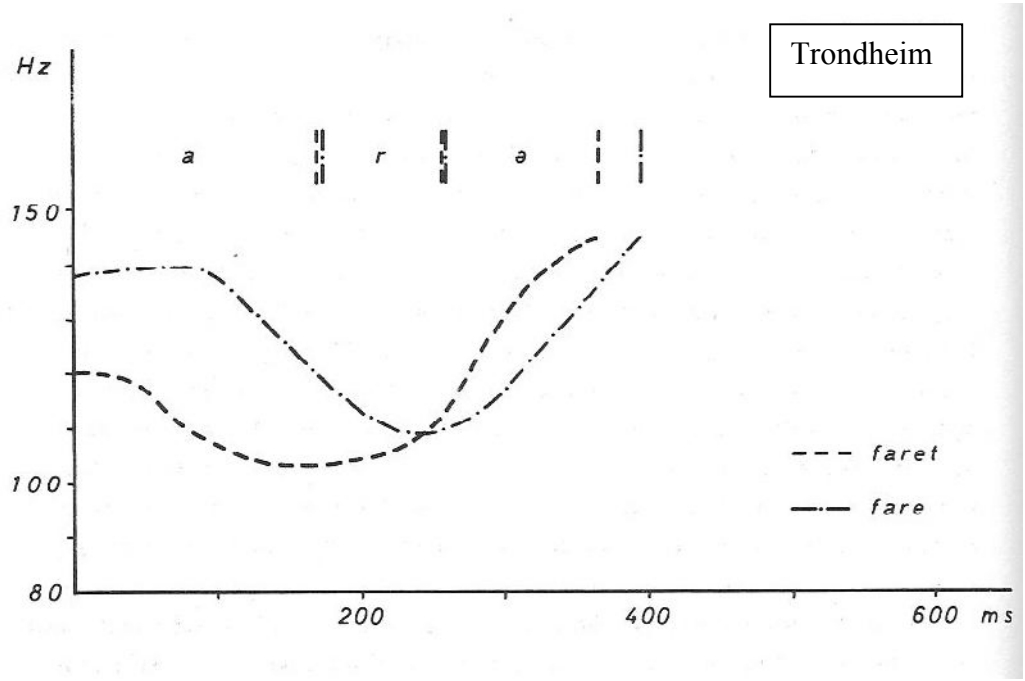
Kristoffersen (2006d), however, maintains that of the F0 contours, which we have just seen for these three East Norwegian dialects, only the contours for Urban East Norwegian could clearly translate into a low tone anchored to the main stressed syllable (L*) for Accent 1, as opposed to a high tone (H*) for Accent 2 (privative opposition). Both North Gudbrandsdal and Oppdal Norwegian, in contrast, have identical HLH contours with systematic differences in timing, creating the tonal opposition of the accents. Therefore, to achieve his goal of bring all three East Norwegian dialects together under one type of analysis, Kristoffersen employs a timing and an Optimality Theoretical (OT) approach (Kristoffersen 2006d).

Kristoffersen's OT analysis utilises the one crucial difference in the phonetic manifestations of the accents that all three dialects share, i.e., the timing of the L. The L always comes later in Accent-2 words than it does in Accent-1 words. Using these similarities and by claiming that LH is the unmarked melody for monosyllables, but the marked for polysyllables, and by a minimal re-ranking of constraints, Kristoffersen's (2006d) analysis succeeds in bringing all three dialects together under the timing approach and OT. One noteworthy consequence of designating LH as the marked melody for polysyllabic words is, that by doing this, Kristoffersen's (2006d) approach in a way also corroborates the claim that Accent 1 is the marked or lexically specified accent. The question still remains to be answered whether a privative approach could not also capture all three dialects. However, this question will have to wait until further research has been done.

1.3. Fintoft's (1970) acoustical analysis of Trondheim Norwegian

Fintoft (1970) characterises Accent 1 as spoken in the Trondheim dialect as a not-falling contour starting with the onset of the stressed vowel as opposed to a falling contour for Accent 2. The opposing contours below in (7) appear to us to be very similar to those elicited by Kristoffersen for North Gudbrandsdal, as we saw in (5). Kristoffersen recall assumes that North Gudbrandsdal Norwegian has a HLH representation for both accents.

(7) Accent-1 and Accent-2 contours for Trondheim dialect (Fintoft 1970:216)



Here we see the contours once again for the homophones *'faret*$_1$ [fa:rə] 'track/the' and *fare*$_2$ [fa:rə] 'danger' that start with the onset of the stressed vowel. These contours represent the average of the contours spoken by 13 speakers of Trondheim Norwegian for *faret* 'track/the', and 12 for *fare* 'danger' (Fintoft 1970:196). The test words were again extracted from the phrases *i dette faret* 'in this track', *en voldsom fare* 'an awful danger' and spoken with a pause before the test words (Fintoft 1970:49-50).

Fintoft (1970) describes the pitch contour of Accent 1 for Trondheim Norwegian as decreasing during the stressed vowel, reaching its minima about 150–100 ms from the onset of the vowel. On the one hand, in words with long vowels, such as *'faret*$_1$ [fa:rə], the minimum occurs at the offset of the vowel. On the other hand, in words with short vowels, like *'lammet*$_1$ [lam:ə] 'lamb/the', the L is found approximately in the middle of the geminate sonorant. Accent-2 words such as *'fare* 'danger' he characterises as having a H tone midway into the stressed vowel.

The main difference between the disyllabic contours, as Fintoft (1970) argues, is the time delay of the Accent-2 contour, which is delayed by 50–100 ms as compared to the Accent-1

contour. He, however, rejects the categorization of the Accent-1 contour as rising or not-falling since he assumes the fall is due to intonation and not to word accent.[84]

1.4. Summary: Acoustic traits of four East Norwegian dialects

To summarise the acoustic cues that appear to differentiate Accent 1 and Accent 2 in these four East Norwegian dialects, and which may be used by listeners to help discern Accent-1 words from Accent-2 words, we can list the following traits:

(8) Summary of acoustic traits of accent opposition in four East Norwegian dialects

a. Kristoffersen (2006d): North Gudbrandsdal, Oppdal
& Urban East Norwegian (UEN)

Accent 1:	• lower F0 at vowel onset (main stress) (North Gudbrandsdal)
Accent 2:	• L tone comes earlier (North Gudbrandsdal, Oppdal, UEN)
	• higher F0 at vowel onset (main stress) (North Gudbrandsdal)
	• L tone comes later (North Gudbrandsdal, Oppdal, UEN)

b. Fintoft (1970): Trondheim Norwegian

Accent 1:	• (falling) – rising contour
	• falling – rising contour
Accent 2:	• time delay

One common trait of these East Norwegian dialects, thus, appears to be the (H)LH vs. HLH contours for Accent 1 and Accent 2, respectively. Urban East Norwegian seems to be the dialect with the least pronounced initial H in it's Accent-1 contours, if there is one there at all. The second and most stable similarity seems to be that the accent opposition is characterised by the different timing of the L, which comes earlier for Accent 1 than for Accent 2 in all four dialects. With these traits in mind, we proceed to test how prefixed and non-prefixed Accent-1 and Accent-2 words differ in Trondheim Norwegian.

84. Fintoft (1970) sees Accent 1, like many of his contemporaries, as not having word tone, the L is merely the manifestation of stress.

2. Tonal opposition in Trondheim Norwegian: Experimental evidence

The alignment and acoustic traits of Norwegian and Swedish dialects have been the object of numerous studies (e.g. Gårding 1977; Bruce 1977, 1990; Hognestad 1997; Lorentz 1995, 2002; Abrahamsen 2003). However, since our interest in the acoustics of the tonal opposition in East Norwegian actually arose from our analysis of accent assignment in prefixed and non-prefixed verbs, we approach the usual questions from a different angle, asking the following:

(9) Experimental questions
   a. Are the acoustic cues for tonal opposition already present within the initial stressed syllable?
   b. Do the contours of stressed vowels in prefixed verbs differ according to accent?
   c. Is there a difference in the contours of stressed vowels when in prefixes, as compared to the contours of stressed vowels when belonging to stems?

These questions correlate to the questions posed by Fintoft (1970) and Kristoffersen (2000, 2006d) in that we are all looking for the distinguishing characteristic between Accent 1 and Accent 2. Even though our questions aim at a more focused area of the tonal opposition, our intent is to find out where the differences in the two word accents lie.

To answer these questions, we must start by considering what kinds of words would be appropriate for this task. First and foremost, our questions call for verbs since only verbs have an Accent-1 ~ Accent-2 opposition in prefixed forms. Our choice is then narrowed down to verbs with monosyllabic stressed prefixes, since all verbs with unstressed prefixes have Accent 1, and all verbs with disyllabic stressed prefixes have Accent 2. That is, there is no accent opposition to be found in words with disyllabic prefixes, nor in words with unstressed prefixes, therefore, no direct comparisons can be made. Now, concerning the non-prefixed verbs, there are two important factors to keep in mind. The first factor is a very characteristic trait of the Trondheim dialect – apocope.

As we already have mentioned, a disyllabic environment is essential for accent opposition in Scandinavian. However, apocope is very common in the dialects of this general area of Central Norway. Many vowels are syncopated or apocopated, such as linking {-e} in compounds or the infinitive marker {-e} at the end of verbs. Since we are dealing with prefixed and non-prefixed verbs, apocope of the infinitive ending eliminates our disyllabic trochaic environment in non-

prefixed forms, and forms with unstressed prefixes. However, although Trondheim Norwegian, as a consequence of apocope, generally has a {-Ø} infinitive marker, it maintains the ON contrast between monosyllabic and disyllabic stems in the present tense. This means that it has monosyllabic Accent-1 present tense forms such as [fɪɲː], [çɛmː], [sɛtː] for *'finner*$_{\mathbf{1}}$ 'find$_{\text{PRES}}$', *'kommer*$_{\mathbf{1}}$ 'come$_{\text{PRES}}$', *'setter*$_{\mathbf{1}}$ 'set$_{\text{PRES}}$', respectively. But also Accent-2 disyllabic present tense forms like [taːɭə], [çɛnnə], [bruːkə] for Standard East Norwegian *'taler*$_{\mathbf{2}}$ 'speak$_{\text{PRES}}$', *'kjenner*$_{\mathbf{2}}$ 'know$_{\text{PRES}}$', *'bruker*$_{\mathbf{2}}$ 'use$_{\text{PRES}}$', respectively. Therefore, although all non-prefixed, initially stressed verbs are monosyllabic in the infinitive, we were able to use disyllabic present tense forms in our comparison of prefixed and non-prefixed verbs.

The second factor to be considered is that there are no Accent-1 verbal counterparts for our disyllabic non-prefixed Accent-2 verbs. That is to say, that although there is an Accent-1 ~ Accent-2 opposition in verbs with initially stressed monosyllabic prefixes, this contrast does not exist in non-prefixed verbs. All initially stressed non-prefixed disyllabic present tense forms have Accent 2, the remaining are either monosyllabic (/finnr/ 'find$_{\text{PRES}}$') or have non-initial stress (*analy'serer*$_{\mathbf{1}}$ 'analyse$_{\text{PRES}}$'). Thus, for non-prefixed forms, in addition to verbs in the present tense representing Accent 2, we use disyllabic nouns and adjectives to represent Accent 1.[85]

2.1. Methods

Below in (10), we list the syllable templates used for selecting our test words. The actual syllable templates used for this investigation are enclosed in frames. The test words include Accent-1 and Accent-2 infinitive verbs with monosyllabic stressed prefixes (trisyllabic), non-prefixed verbs in the present tense (Accent 2, disyllabic) and finally also polysyllabic nouns and adjectives (Accent 1). We have a total of five prefixed verbs, with seven non-prefixed verbs, and one noun in the Accent-2 set making it syntactically very homogenous. However, this is not so for the set of Accent-1 words. Here we have five prefixed verbs, and

85. We should mention that our test words also include two forms with definite articles, namely *'fingeren*$_{\mathbf{1}}$ 'finger/the' ['fɪŋːɜˈn] {fingr}+{=en}, and *'vingene* 'wings/the' ['vɪŋːan] {ving-er}+{=ne}. Our decision to include these words was based on the fact that definite articles do not affect accent in any way as we saw in Chapter 3, section 2.1. They merely add an additional syllable.

six non-prefixed nouns and adjectives. This distribution could not be avoided since, as we mentioned, Norwegian has no disyllabic Accent-1 verbs with initial stress that are not prefixed. The remaining syllable templates, not enclosed in frames, include verbs with unstressed prefixes, and disyllabic prefixes as well as trisyllabic nouns and adjectives to bring more variety into the test words, and for use in future research.

(10) Trondheim sample

a. Non-prefixed nouns and adjectives

Accent 1	**Accent 2**
'σ σ$_1$	'σ σ σ$_2$
'σ σ σ$_1$	
σ 'σ σ$_1$	

b. Verbs

Accent 1	**Accent 2**
'σ σ σ$_1$	'σ σ$_2$
σ 'σ σ$_1$	'σ σ σ$_2$
'σ σ σ σ$_1$	'σ σ σ σ$_2$

A complete list of the test words is given in the Appendix B. Below is a table with examples of test words matching the framed templates just seen in (10).

(11) Test words template

	Accent 1	Accent 2
Prefixed	{'ǎv}{tal}{e}	{'mis}{tal}{e}
Non-prefixed	{'v̌illa}, {'fingr}{=en}	{'tal}{er}

As can be seen by the non-prefixed Accent-1 words, there are two possibilities here. A non-prefixed word can be Accent-1 because it is lexically specified like '*v̌illa*$_1$ 'villa', or it has Accent 1 because it is monosyllabic with a definite clitic like '*fingeren*$_1$ {fingr}{=en} 'finger' as we explained in Chapter 3 (cf. (19d) in section 2.1.2).

2.1.1. Recordings

Our recordings were made under laboratory conditions in the speech lab of the phonetics department at the University of Trondheim. In order to avoid list intonation, the test words were presented on a computer screen in Bokmål for speakers to read.[86] All words were read in isolation, i.e., not in a carrier sentence. However, for the verbs, speakers added the infinitive marker *å* before each verb. Subjects were instructed to speak as naturally as possible, and to report any words that they did not have in their dialect.

2.1.2. Subjects

We recorded seven adult native speakers of Trondheim Norwegian (five females and two males). Two age groups were represented by the speakers. One group ranged from 23–35 years old (five speakers), and the another group included speakers from 50–58 years old (two speakers). Speakers were asked about their linguistic and geographic background, to make sure they genuinely spoke the dialect of the Trondheim area.

One speaker informed us that she belonged to a different sociolect than the others. After an analysis of her data (speaker F7), the main difference between the two sociolects for our purposes turned out to be that this speaker (F7) syncopated less often. According to this behaviour, we identified another speaker (M2) as also belonging to this sociolect. As already mentioned, it was important for our comparison that we minimally had forms with a disyllabic trochee. Thus, although most of our Trondheim speakers apocopated the infinitive marker in both the non-prefixed and prefixed verbs, whereas the two speakers of the other sociolect did not apocopate in the prefixed cases, a disyllabic trochee was still available here and we used both disyllabic and trisyllabic forms (e.g. '*avtal*$_{\mathbf{1}}$ and '*avtale*$_{\mathbf{1}}$ ‘to make an appointment’).

2.1.3. Acoustic analysis

We segmented the speech waves, generated spectograms and F0 contours for each word using the speech analysis programme Praat.[87] To facilitate comparison, we took the longest example across speakers for each word and adjusted the other frames to match the length of this word

86. Two speakers read off cards presented by the interviewer because of temporary technical problems.
87. We used Praat version 4.3.27 for MAC OS X.

by adding on silence. For the prefixed verbs, we took the longest prefixed verb for each verb set, taking all speakers into consideration, and adjusted all other frames of this verb set from all speakers to match. We found that using a single pitch scale for both male and female subjects stunted the F0 contours for the males immensely. Thus, we decided to depict the pitch contours using different scales for female and male subjects: for the five female subjects, we use a scale of 50–400 Hz, and a scale of 40–200 Hz for the two males. By using different scales, the contours of the male speakers become much more distinct since their pitch never exceeds 200 Hz.

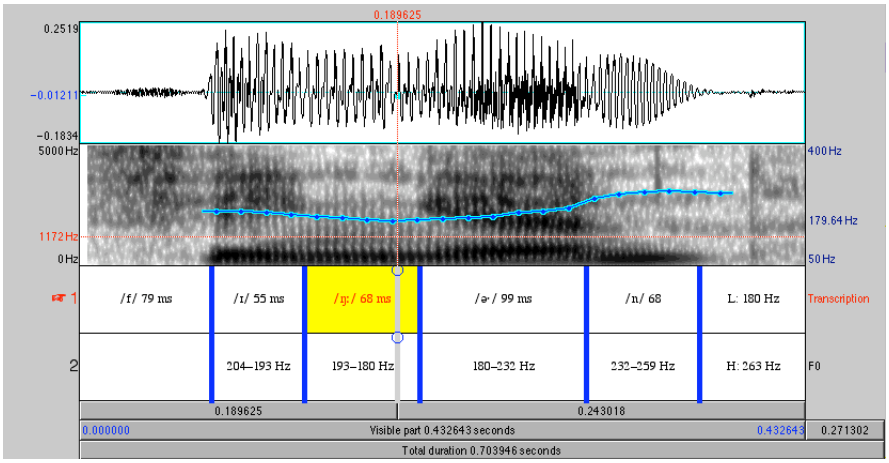
2.2. Preliminary findings

We first consider the findings for words with stem stress, i.e., non-prefixed nouns and adjectives in section 2.2.1. In section 2.2.2, we then present the preliminary findings for non-prefixed and prefixed verbs.

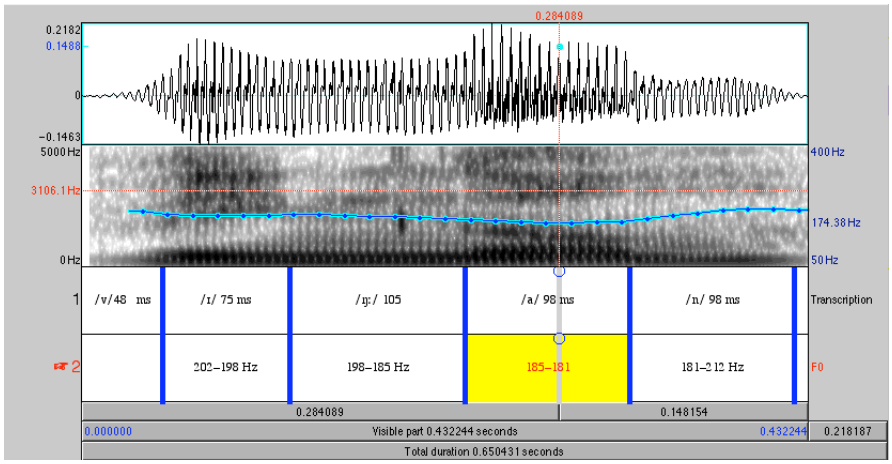
2.2.1. Words with stem stress

We start out by examining the similar and contrasting properties of Accent 1 and Accent 2 found in our data. In the following we compare the pitch contours of the segmentally similar words '*fingeren*$_1$ {fingr}+ {=en}, 'finger$_{DEF,SING}$' and '*vingene*$_2$ {ving-er}+ {=ene}, 'wing$_{DEF,PLUR}$' generally produced as the disyllables ['fɪŋːɜˈn]$_1$ and ['vɪŋːan]$_2$.

(12) Speaker F5 disyllabic utterance of *'fingeren*$_1$ 'finger$_{DEF,SING}$' ({fingr}+{=en}, ['fɪŋːɜˈn])



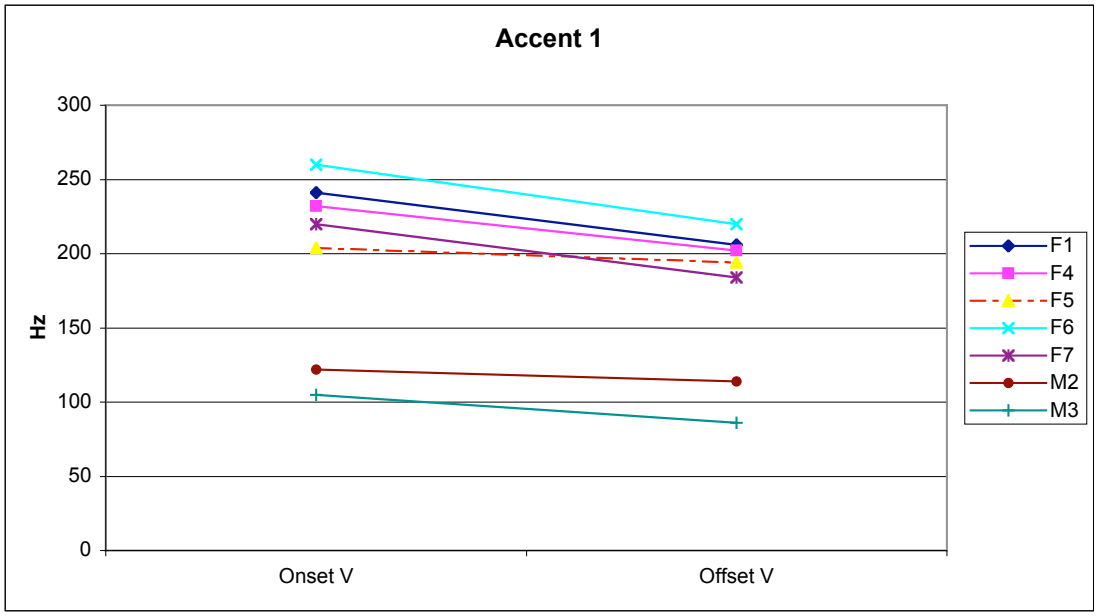
(13) Speaker F5 disyllabic utterance of '*vingene*$_2$ 'wing$_{DEF,PLUR}$' ({ving-er}{=ne} ['vɪŋːan])



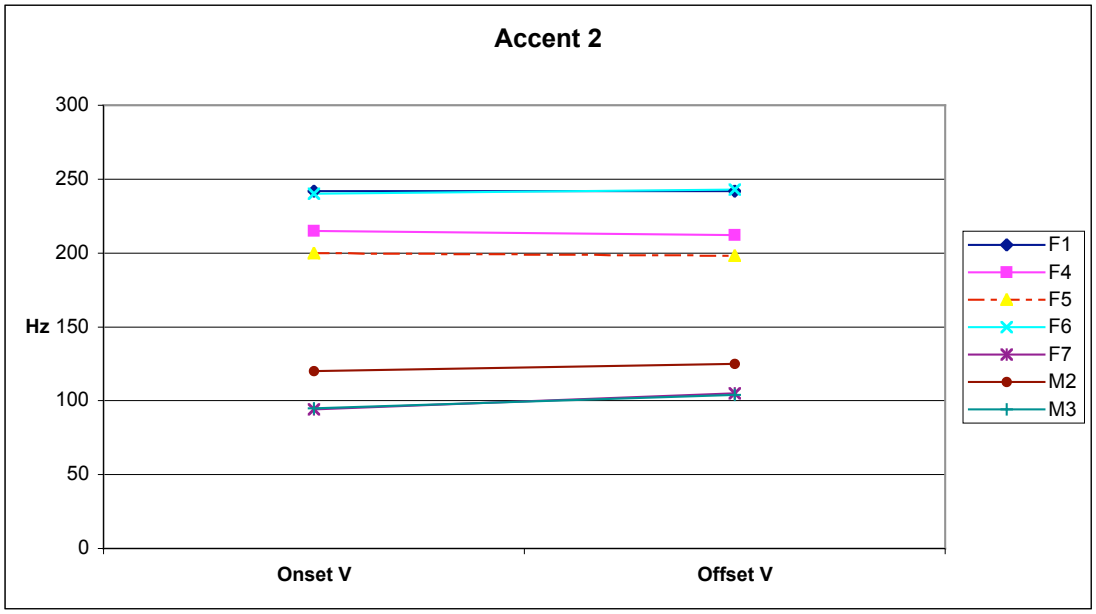
These F0 contours produced by speaker F5 are typical of the contours we elicited for non-prefixed words with stem stress. Each utterance is divided into segments by blue vertical lines, and the F0 minimum is marked with a thin red vertical line, which has two circles in the lower two tiers. These two tiers below the speech wave contain – on the upper tier – the segmental make-up of the words (IPA transcription) and the length of each segment in milliseconds. The lower tier shows the F0 at the onset and offset of sonorant segments on in Herz. Corresponding pitch curves for the remaining six speakers can be found in Appendix B.

Two significant differences in the acoustics of Accent-1 and Accent-2 is obvious among all seven speakers. First, the shape of the Accent-1 contour during the stressed vowel can be described as slightly falling as opposed to Accent 2 which appears to be flat or slightly rising. We illustrate this with the F0 values measured at the onset and end of the stressed vowel for '*fingeren*$_1$ 'finger$_{DEF,SING}$' in (14) and '*vingene*$_2$ 'wing$_{DEF,PLUR}$' in (15) for all seven speakers individually (F = female, M = male).

(14) F0 measurements for the onset and offset of stressed vowel in Accent 1 '*fingeren*$_1$ 'finger$_{DEF,SING}$' ({fingr}+{=en}, ['fɪŋːɜˈn])



(15) F0 measurements for the onset and offset of the stressed vowel in Accent 2 '*vingene*$_2$ 'wing$_{DEF,PLUR}$' ({vinger}{=ne} ['vɪŋːan])

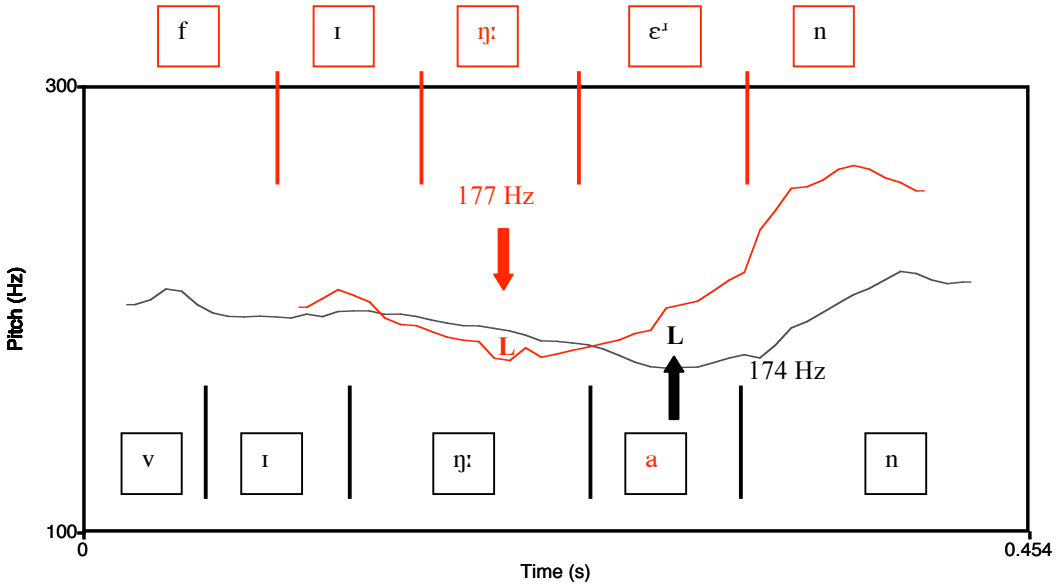


The differences in the F0 movement of the stressed vowels are slight, nevertheless, the direction of F0 is definitely falling for the stressed vowels of Accent 1 in (14), and remains flatter for that of Accent 2 in (15). We will look at this tendency in more detail in section (2.2.3).

The second, very evident dissimilarity of the Accent-1 and Accent-2 contours is the difference in the timing of the F0 minimum. We mark the F0 minimum or L with a red vertical line in (12) and (13). As can be seen here, the L is found late in the first syllable for Accent 1, and further along into the second syllable for Accent 2. This difference in timing applied to all speakers, and has been observed in many other dialects – most notably for Central Swedish by Bruce (1977), for East Norwegian by Haugen & Joos (1952/1983), and as we mentioned above, for the East Norwegian dialects by Kristoffersen (2006d) and Fintoft (1970). Moreover, if we take a second look at Fintoft's (1970) F0 contours for '*faret*$_{\mathbf{1}}$ 'track/the' and '*fare*$_{\mathbf{2}}$ 'danger' in (1) for Oslo Norwegian, we also see that this description could indeed apply here as well. The L is manifested in the first vowel for '*faret*$_{\mathbf{1}}$'track/the' while at the onset of the second vowel for '*fare*$_{\mathbf{2}}$ 'danger' as in '*fingeren*$_{\mathbf{1}}$ 'finger' and '*vingene*$_{\mathbf{2}}$ 'wing' in (12) and (13).

These two characteristic differences in the Accent-1 and Accent-2 contours applied to all speakers, and to all words. However, the timing of the L seems to be more prominent than the falling versus flat contour for the stressed Accent-1 and Accent-2 vowels, respectively, because the contour often appears to be more or less flat for both accents. Therefore, we will concentrate on the difference in the timing of the L for the moment, since the contour of the stressed vowels perhaps do not differ enough for Accent 1 and Accent 2 to be considered an acoustic cue. Below, the two F0 contours taken from (12) and (13) for '*fingeren*$_{\mathbf{1}}$ 'finger' and '*vingene*$_{\mathbf{2}}$ 'wing' have been put into the same figure to underline the differences in the timing of the L.

(16) Comparison of Accent 1 and Accent 2 contours F5 *'fingerne₁/'vingene₂*



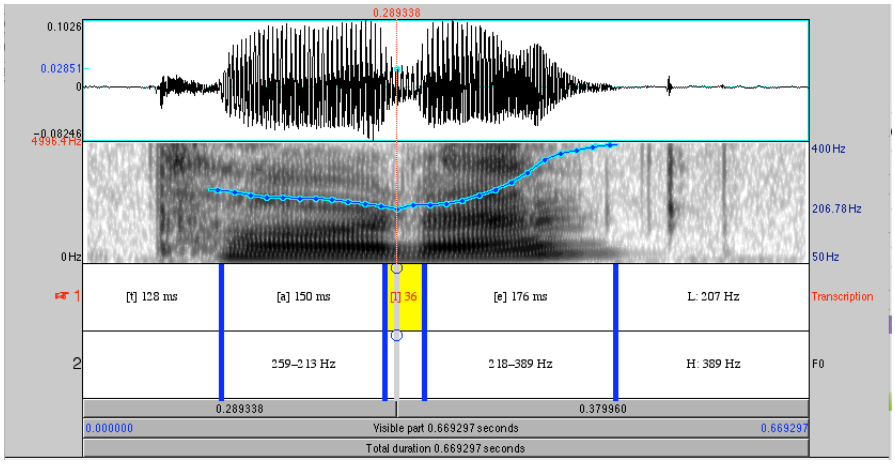
To emphasise the course of the two pitch curves, we have narrowed the pitch range from 50–400 Hz in figures (12) and (13) down to 300–100 Hz here in (16). The red arrow points to the L of the red F0 curve for Accent-1 [fɪŋːɛˈn], and correspondingly the Accent-2 contour and its L are in black for [vɪŋːan]₂. The F0 minimum is situated in the middle of the geminate nasal for Accent 1, and later in the vowel of the second syllable for Accent 2. Notice that the onset of the vowels of the stressed syllables is equal in pitch height, as Kristoffersen (2006d) also found for the Oppdal dialect in (5), therefore we can rule this out as a possible cue for Trondheim Norwegian as well.

To summarise our findings for the acoustic cues in words where main stress is on the stem, we concur with Fintoft (1970) and Kristoffersen (2006d) that the timing of the L appears to be a quite stable cue for the accent opposition. However, as formulated in our research questions in (9), we are interested in finding out whether the stressed vowels alone differ in respect to accent. Here we see a tendency for Accent 1 to have a steeper decline in F0 than Accent 2, but it requires further investigation. Now we turn to the findings for prefixed verbs.

2.2.2. Verbs: Prefixed and non-prefixed

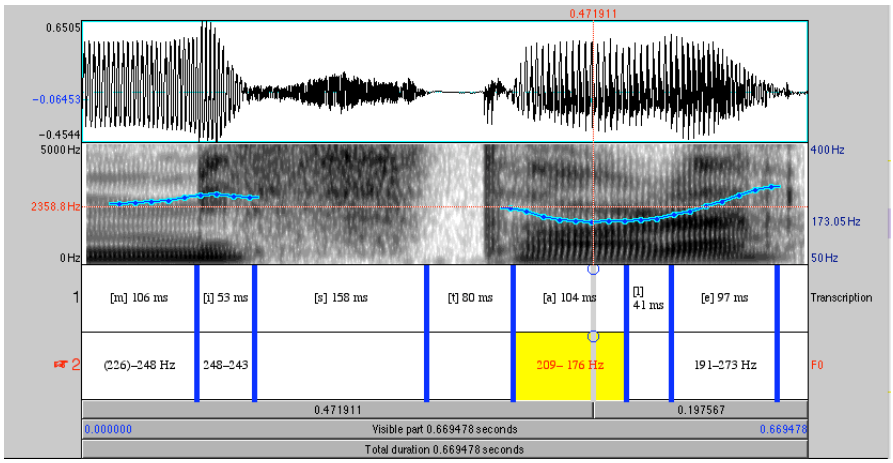
The following figures present typical F0 contours for four prefixed and one non-prefixed form of the verb *tale*$_2$ ‘to speak’ produced by speaker F1.

(17) Speaker F1 '*taler*$_2$ ['taːɭə] ‘speak$_{PRES}$’



Again we mark the approximate segment boundaries with blue lines. As in the disyllabic Accent-2 noun in (13), the L (207 Hz) is found in the syllable following main stress, i.e., at the onset of the final vowel. The F0 of the stressed vowel, however, is slightly falling from 258–212 Hz, which was more typical of the Accent-1 contours that we found in the simplex nouns.

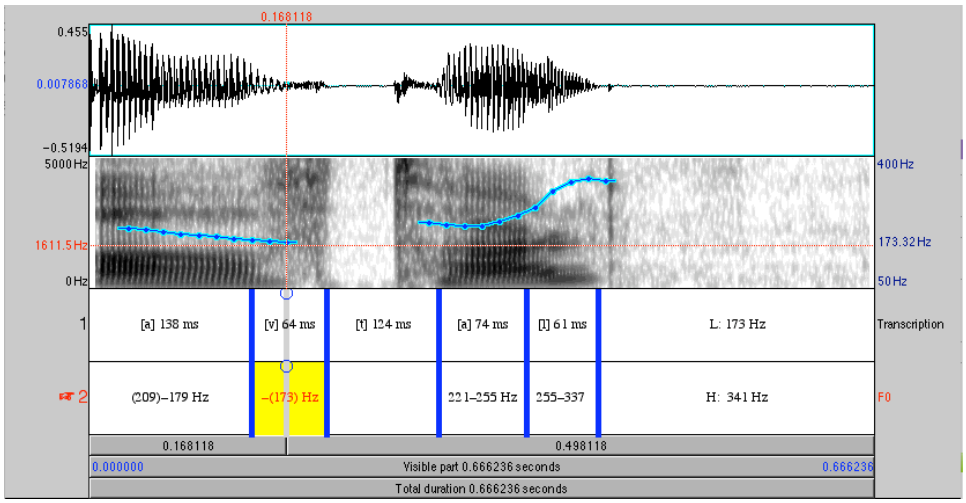
(18) Speaker F1 '*mistale*$_2$ ['mɪstaːɭə] ‘to make a slip of the tongue ’



The prefixed verb '*mistale*$_2$ ‘to make a slip of the tongue’ also has initial stress and Accent 2. However, as can be seen by the Standard Norwegian infinitive suffix {-e}, this verb

is not common in this dialect.[88] Similar to (17) '*taler*$_2$, 'speak$_{PRES}$', which is also Accent 2, the pitch contour of the stressed vowel is also falling (248–245 Hz), and the L is reached in the post-stress syllable near the end of the vowel.

(19) Speaker F1 '*avtale*$_1$ ['av ta:l] 'to make an appointment'



This Accent-1 verb with the lexically specified stressed prefix {ăv-} contains a constantly falling F0 contour for the main stressed syllable. The frequency of the stressed vowel falls from 209–179 Hz, and descends further down to the F0 minimum of 173 Hz at the end of the /v/. The following syllable starts higher at 221 Hz, making the minima of the stressed syllable even more prominent.

In the following all statistics taken for F1's production of the *tale*-verbs are listed.

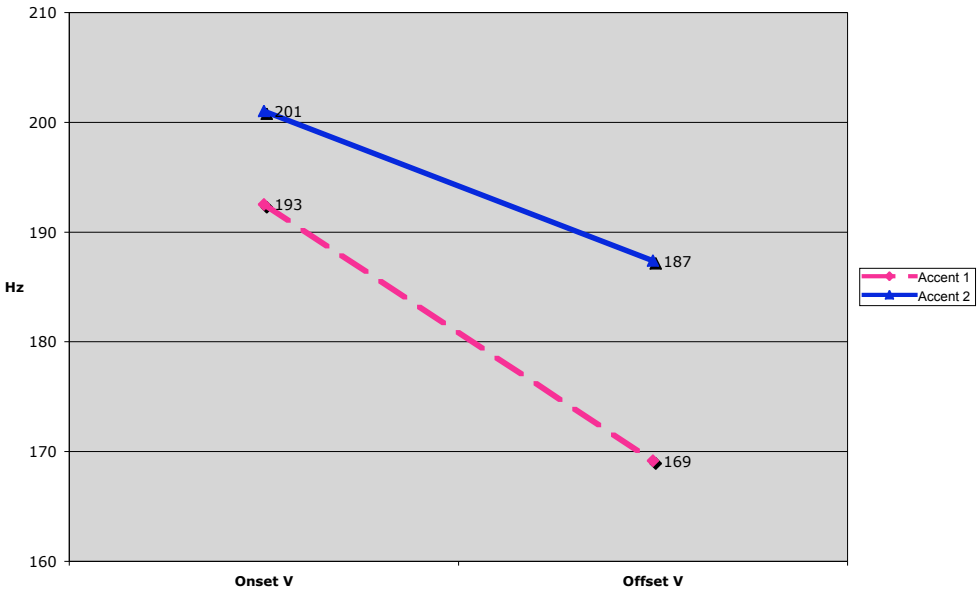
(20) Summary of values for F1 verb set *tale*

	Range in Hz of stressed vowel	Length (sec) of stressed vowel	Location of F0 minimum
['θɑ:l̥ə]$_2$	258–212 fall	0.157	post stress
['mɪsta:l]$_2$	248–245 fall	0.083	post stress
['ăvta:l]$_1$	209–179 fall	0.122	stressed σ

88. However, only one very conscientious dialect speaker refused to say this word because he would not use it when speaking in his dialect. The others had no objections to using it when speaking their dialect.

Once again, as in the non-prefixed words, the difference between Accent 1 and Accent 2 can be made by the location of the L minimum. Accent 1 still has the L in the stressed syllable as compared to Accent 2, where it is located in the post-stress syllable. The difference in the patterns of the F0 contour during the stressed vowels seems to be even less prevalent in these prefixed words. Below, we have plotted the average F0 value for the onset and offset of all stressed vowels for all speakers.

(21) Mean onset and offset of all main stressed vowels



This chart shows that the contours of Accent-1 and Accent-2 stressed vowels indeed differ according to accent. To back up this finding, and to answer our original three questions (9) we performed an analysis of variance (ANOVA) as described in the next section.

2.2.3. Statistical analysis of F0 excursion in main stressed vowel

For our analysis, we calculated the delta F0 for main stressed vowels (offset F0 minus onset F0) as the basis for an ANOVA that compares Accent 1 and Accent 2.[89] We investigated the delta F0 of the main stressed vowels of verbs with stressed prefixes (monosyllabic prefixes) and non-prefixed disyllabic verbs and nouns.

The factors used for the ANOVA were GENDER (male, female), ACCENT (Accent 1, Accent 2), and STEM-STRESS (main stress on prefix, main stress on stem). We found significant main effects for all three factors: GENDER ($F(1,130) = 16.08$, $p < 0.001$), ACCENT ($F(1,130) = 29.54$, $p < 0.001$) and STEM-STRESS ($F(1,130) = 11.20$, $p = 0.0011$).

The main effect of GENDER reveals that the delta F0 for females (LSM = -19.1, sd =1.21) was significantly larger than for males (LSM = -9.41, sd = 2.08). This is not surprising since the range of F0 for female subjects was larger than that of the males and therefore required two different scales to capture the pitch contours (Females: 50–400 Hz, Males: 40–200 Hz).

The main effect of ACCENT shows that Accent 1 has a more prominent fall (LSM = -20.79, sd =1.69) than Accent 2 (LSM = -7.75, sd =1.71) during the stressed vowel ($t = -5.43$, $p = 0$). This confirms the findings of our first analysis in (14) where we plotted the mean onset and offset of the stressed vowel for all speakers. Note that both accents have falling F0 contours during the stressed vowel, the difference between the accents is not of a falling versus a rising contour.

The main effect of STEM-STRESS shows that the F0 contour has a more extreme fall during stressed vowels of stems (LSM = -18.29, sd =15.3) than during stressed vowels of prefixes (LSM = -10.24, sd =1.86). This can be attributed to the fact that the stressed vowels found in prefixes are usually shorter than main stressed stem vowels.

We furthermore considered the interactions between ACCENT+STEM-STRESS, GENDER+ ACCENT+STEM-STRESS, GENDER+ACCENT, GENDER+STEM-STRESS. The analysis showed no significant interactions between GENDER+ACCENT+STEM-STRESS, GENDER+ACCENT, and GENDER+STEM-STRESS, assuring us that GENDER had no effect. However we did find a significant interaction between ACCENT+STEM-STRESS ($F(1,130) = 4.53$, $p = 0.035$).

89. We used the statistics programme JMP (version 5.0.1.2 for MAC OS) for our calculations.

A post hoc test of the ACCENT+STEM-STRESS interaction produced a very striking finding. It showed that there was a significant difference between the vowels of Accent-2 words ($t = 3.85$, $p < 0.001$) but not between the vowels of Accent-1 words ($t = 0.87$, $p = 0.38$). This suggests that the stressed prefixed vowels in words like '*mistale*$_2$ 'to make a slip of the tongue' differed significantly from stressed stem vowels in non-prefixed words like '*taler*$_2$ 'speak$_{PRES}$', i.e., the delta F0 differed significantly. Recall that in our approach Accent 2 is the default accent. This finding supports the classification of Accent 2 as the default accent, since traditionally it has been maintained that phonemic differences are categorical whereas post-lexical phonology is more gradient. Therefore, one would expect more variance in a default as compared to a lexical accent. And indeed there was no significant variance to be found amongst the Accent-1 stressed prefix vowels, as compared to the Accent-1 stem stressed vowels.

The results of this preliminary investigation and especially the main effect found for ACCENT answers our first two questions (9a,b). The difference between Accent-1 Accent-2 is already available in the stressed vowel of these initially stressed prefixed and non-prefixed words in Trondheim Norwegian. The significant interaction between ACCENT+STEM-STRESS then answers our third question (9c). There is indeed a significant difference in the F0 contour of stressed vowels in prefixed and non-prefixed disyllabic verbs, however only for Accent 2, Accent-1 vowels do not differ significantly.

2.3. Summary

Our findings show that the Accent-1 ~ Accent-2 opposition is already detectable in the stressed vowel of the initial syllable, be it the vowel of a prefix, or stem. These main stressed vowels contain accent that is morphemic, if we are dealing with a lexically specified prefix (e.g. {'*ǎv*}{*tal-e*}$_1$ 'to make an appointment'). The accent can also be default as, for example, in unspecified prefixes (e.g. {'*mis*}{*tal-e*}$_2$ 'to make a slip of the tongue'), or in non-prefixed verbs ({'*tal-er*}$_2$ 'speak$_{Present}$'). Finally, the accent could also belong to the lexically specified stem if we are dealing with non-prefixed words (e.g. {'*v̌illa*}$_1$ 'villa'). In all of these cases, the difference between the F0 contours of Accent 1 and Accent 2 is acoustically manifested. The cue mentioned by both Fintoft (1970) and Kristoffersen (2006d) and also found in our data, i.e., the position of the L, only seems to be indirectly significant. It is indirectly significant

since the steeper fall in the stressed syllable of Accent-1 words is, of course, a result of the earlier L, and the not-so steep fall a result of the later L of Accent-2 words. Furthermore, our investigation has also shown that the contours of stressed vowels bearing lexical accent do not differ significantly as to whether they are the stressed vowel of a prefix, or a stem, but that stressed vowels with default accent do. It would be interesting to add stressed vowels bearing lexical specification in suffixes (e.g. *analy'sĕre* 'to analyse'), and in compounds to these findings, although there will be no Accent-2 counterpart for stressed suffixes to compare.

Perception studies such as Efremova et al. (1963) for East Norwegian, and Felder & Jönsson-Steiner (2006) for Stockholm Swedish have found that listeners are able to identify the tonal accents, when only given the first stressed syllable of disyllabic words. Efremova et al. (1963) found, in fact, that the accents were discernable even before the end of the stressed syllable. Therefore, a next step toward fully answering our questions, would entail a perception study testing the accent opposition in main stressed vowels of prefixed and non-prefixed words conducted with native Trondheim speakers, to find out whether these significant differences are also sufficient for listeners to discern the two accents.

CONCLUSION

The regularities of Accent 2 and the special status of Accent 1 as something foreign, something that does not fit in, something that goes hand in hand with things that are exceptional, opened our eyes to an analysis that has eluded the scrutiny of other scholars until now.

Assuming that Accent 1 is the lexically specified member of the accent opposition in Scandinavian reunites three languages with common origins that are mutually intelligible today: Danish, Swedish and Norwegian. The assumption that stød must be lexically specified in Danish seems to stand unchallenged. It is also accepted as an established fact that words containing stød in Danish correspond to Accent-1 words in Swedish and Norwegian. Nevertheless, Scandinavian scholars have ignored this correspondence up to now in that they were reluctant to look towards their neighbours.

In this thesis, we have attempted to provide all the facts. That is, we have presented the facts of accent distribution in Standard East Norwegian and discussed how three of the more recent and most important morphophonological analyses of accent assignment in Norwegian and Swedish deal with these facts, before giving our own analysis. Our approach has concentrated on Standard East Norwegian but always keeping an eye on what Central Swedish does and ON did. In this way, we were able to account for many aspects of accent assignment, the true nature of which might have gone undetected had we only taken one language into consideration. We made a small start at showing how accent assignment in particular areas of Central Swedish, i.e., compounds and prefixed words, can be accounted for within our approach. Our approach is intended to serve as a foundation for the analysis of accent distribution in all Scandinavian dialects and we are looking forward to seeing what new insights the analysis of other dialects will yield. We believe that the answers to questions of the behaviour and prosodic structure of derivational suffixes and monosyllabic words can be found by looking at other dialects and languages such as Danish or Southern Swedish.

Future research will also have to investigate the lexical phonology of these dialects and languages. It will have to define which processes and morphemes belong to the different levels of the lexical phonology and which belong to the postlexical phonology. For example,

derivational suffixes, as we saw in Chapter 3, do not all behave alike. Derivational suffixes in Germanic languages are usually classified as belonging to one of two classes, i.e., to the class of cohering or non-cohering suffixes. Cohering and non-cohering pertains to their prosodic structure, i.e., whether they make up a prosodic unit together with the stem or if they make up one on their own, respectively. Derivational suffixes that make up a prosodic word of their own, e.g. $\{\text{-skap}\}_{\omega}$, $\{\text{-aktig}\}_{\omega}$, $\{\text{messig}\}_{\omega}$ will be attached at a later lexical level than cohering suffixes, e.g. {-ing}, {-else}. Kristoffersen (2000:44) grouped the following suffixes together as non-cohering:

(1) Non-cohering suffixes
{-skap}, {-het}, {-dom}, {-som}, {-bar}, {-aktig}, {-messig}

In our analysis of the derivational suffixes (Chapter 3, section 3.2), the behaviour of these suffixes did not allow them to be grouped together under one classification. They affected accent assignment in different ways or sometimes not at all. This could be an indication that they are attached at different levels, or perhaps some come with their own foot structure while others are whole prosodic words. The derivational affixes indeed need to be examined more closely than was possible within the framework of this thesis.

As to our acoustic analysis of Trondheim Norwegian, a larger sample of test words and more subjects are needed to substantiate our findings. However, this analysis should go hand in hand with a perceptual analysis to ensure that what is acoustically significant is also used as a clue by native listeners.

We are certain that further research. be it investigating accent assignment in other Scandinavian languages or dialects, looking more closely at the prosodic makeup of Standard East Norwegian words, or acoustic and perceptual experiments, will only help to strengthen the validity of our lexical Accent-1 approach.

ZUSAMMENFASSUNG

Traditionell wird sowohl in der älteren wie auch der neueren Literatur zum Tonakzent in den skandinavischen Sprachen die Auffassung vertreten, dass der Tonakzent 2 im Lexikon spezifiziert sein muss, während der Tonakzent 1 regelgeleitet zugewiesen wird. Diese Auffassung führt zu sehr komplizierten Analysen mit vielen Ausnahmen. Das Hauptanliegen dieser Arbeit besteht im Nachweis dessen, dass genau das Umgekehrte der Fall sein muss: Tonakzent 1 ist und war immer der lexikalische Akzent, der nicht aus den Regeln der Phonologie folgt, sondern im Lexikon spezifiziert sein muss.

Im Zentrum dieser morphophonologischen Studie steht das Standardostnorwegische, mit einer Untersuchung der Akzentzuweisung unter allen Aspekten. Zur Kontrolle, dass die Erkenntnisse dieser Studie Gültigkeit für alle skandinavischen Sprachen mit Tonakzent haben, wird das Schwedische herangezogen.

Kapitel 1 führt zunächst in das Thema der Tonakzente im Skandinavischen ein und gibt an Hand von einschlägigen Ansätzen in der Literatur einen Überblick über deren kontroverse und nicht kontroverse Beschreibungen und Eigenschaften. Kapitel 2 stellt die drei vorherrschenden morphophonologischen Ansätze mit ihren Annahmen und Vorhersagen kritisch dar.

Kapitel 3 entwickelt den eigenen Ansatz auf der Grundlage des Einflusses von Flexions- und Derivationsmorphologie auf die Zuweisung von Tonakzenten. Als großer Vorteil des Tonakzent-1-Ansatzes erweist sich, dass nur wenige Flexionsmorpheme spezifiziert werden müssen: Insgesamt gibt es nur vier lexikalisch zu spezifizierende Flexionsmorpheme, von denen drei bereits aus unabhängigen Gründen (Umlaut) lexikalisch erfasst werden müssen. Im Gegensatz dazu müssen Ansätze, die Tonakzent 2 als lexikalisch spezifiziert analysieren, fast jedes Flexionsaffix im Lexikon spezifizieren, da ein überwiegender Teil der flektierten Wörter Tonakzent 2 aufweist. Dies kann als Evidenz für eine regelgeleitete Zuweisung von Tonakzent 2 gesehen werden.

In Kapitel 4 stehen Komposita mit und ohne Fugenmorphem im Mittelpunkt. Die Annahme, dass lexikalischer Tonakzent 1 auf dem Erstglied den Tonakzent des Kompositums bestimmt, ermöglicht eine einfache Erklärung für die Akzentzuweisung. Komposita, die Tonakzent 2 aufweisen, besitzen keine lexikalische Spezifizierung im Erstglied und bekommen post-lexikalisch Akzent 2 zugewiesen. Dieser Ansatz ermöglicht darüber hinaus auch eine elegante Erklärung der Akzentzuweisung bei Komposita mit einsilbigem Erstglied mit und ohne Fugenmorphem. Es wird zudem angenommen, dass monosyllabische Wörter ebenfalls lexikalischen Tonakzent haben können, obwohl es an der Oberfläche nur Tonakzentopposition in Wörter gibt, die mindestens aus einem zweisilbigen Trochäus bestehen.

Die Eigenheiten von lexikalischem Tonakzent sind Gegenstand von Kapitel 5, das Lehnwörter und ihre Integration ins Standardostnorwegische untersucht. Motivation dafür ist, dass die meisten Wörter und Affixe mit Spezifikation für Tonakzent 1 Lehnwörter sind, allerdings nicht alle Lehnwörter Tonakzent 1 haben. Manche Lehnwörter können sich an das norwegische System anpassen und erhalten Tonakzent 2. Andere können sich aus verschiedenen Gründen nicht anpassen und müssen im Lexikon gespeichert werden. Weitergehend werden in diesem Kapitel Unterschiede in der Tonakzentzuweisung im Standardostnorwegischen und dem Zentral-Schwedischen festgestellt und eine historische Erklärung dafür geliefert: Im Gegensatz zu anderen Analysen (z.B. Riad 1998a) wird hier dafür argumentiert, dass das Norwegische das ältere Tonakzentzuweisungssystem hat, und dass das Schwedische ein innovativeres System besitzt.

Kapitel 6 untersucht die akustischen Unterschiede im Tonakzent anhand eines einzelnen – in Trondheim gesprochenen – ostnorwegischen Dialekts. Hierzu wurde ein Experiment zur Unterscheidung der Realisierung von Tonakzent 1 und Tonakzent 2 durchgeführt. Es wurde hierbei die Tonhöhe am Anfang und am Schluss des betonten Vokales gemessen und die Differenz ermittelt. Das Testset bestand aus Wörtern mit Betonung auf dem Präfix und anderen mit Betonung auf der Stammsilbe. Entsprechend gab es vier Gruppen von Testwörtern: Gruppe A mit betontem Präfix und Tonakzent 1, Gruppe B mit betontem Präfix und Tonakzent 2, Gruppe C mit Betonung auf dem Stammvokal und Tonakzent 1 und Gruppe D mit Betonung auf dem Stammvokal und Tonakzent 2.

Das Experiment führt zu zwei interessanten Ergebnissen: Erstens gibt es einen statistisch signifikanten Unterschied zwischen dem Tonhöhenverlauf von Tonakzent 1 und Tonakzent 2 im betonten Vokal. Zweitens weist der Tonhöhenverlauf von betonten Vokalen im Präfix einen signifikanten Unterschied zu denjenigen im Stamm auf, allerdings nur für Wörter mit Tonakzent 2. Dieser Befund stützt die These, dass Tonakzent 2 der unspezifizierte Tonakzent ist. In der Literatur wird schon lange behauptet, dass phonemische Unterschiede kategorisch sind, post-lexikalische Phonologie jedoch eher gradient.

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APPENDICES

A. List of prefixes and suffixes in Standard East Norwegian

1. Prefixes of Native and other Germanic origin – classified by Accent[90]

1.1. Prefixes with Accent 1

Prefix	Origin	Base	Imperative	Infinitive	Indef.sg.	Gloss
be-	WGmc	verb	be'tenk$_1$	be'tenke$_1$	–	*to consider*
er-	WGmc	verb	er'far$_1$	er'fare$_1$	–	*to experience*
for-	WGmc	verb	for'bedre$_1$	for'bedre$_1$	–	*to improve*
ge-	WGmc	noun	–	–	ge'byr$_1$	*fee*

1.2. Prefixes with Accent 2

Prefix	Origin	Base	Imperative	Infinitive	Indef.sg.	Gloss
'and-	ON	noun	–	–	'andsjø$_2$	*currents*
		adj.	–	–	'andpusten$_2$	*out of breath*
'for-	ON	noun	–	–	'forslag$_2$	*suggestion*
'fore-	ON	verb	'foreslå$_2$	'foreslå$_2$	–	*to suggest*
		noun	–	–	'foredrag$_2$	*speech*
'jam-	ON	verb	'jamfør$_2$	'jamføre$_2$	–	*to compare*
		adj.	–	–	'jamgod$_2$	*just as good*
'mis-	ON	verb	'miskjenn$_2$	'miskjenne$_2$	–	*to misjudge*
		noun	–	–	'mistanke$_2$	*suspicion*
		adj.	–	–	'misnøyd$_2$	*displeased*
'ov-	ON	adj.	–	–	'ovstor$_2$	*extremely big*
'over-	ON	verb	'oversett$_2$	'oversette$_2$	–	*translate*
		noun	–	–	'overdel$_2$	*top*
'sam-	ON	verb	'samtal$_2$	'samtale$_2$	–	*to converse*
		noun	–	–	'samtale$_2$	*conversation*
tve/tvi-	ON	verb	'tvedel$_2$	'tvedele$_2$	–	*to halve*
		noun	–	–	'tvefold$_2$	*twofold*

90. Stress marks indicate whether a prefix bears main stress or not. The abbreviation 'ON' stands for native affixes attested in Old Norse, 'WGmc' for affixes borrowed from Middle Low German or High German, and 'non-Gmc' for affixes borrowed from Greek or the Romance languages.

Prefix	Origin	Base	Imperative	Infinitive	Indef.sg.	Gloss
'u-	ON	noun	–	–	'uhygge$_2$	*dismal*
		adj.	–	–	'uklar$_2$	*hazy*
		p.part.	–	–	'ukjennt$_2$	*strange*
'under-	ON	verb	'undergå	'undergå	–	*experience*
		noun	–	–	'underhold$_2$	*maintenance*
'van-	ON	verb	'vansir$_2$	'vansire$_2$	–	*to disfigure*
		noun	'vanær$_2$	'vanære$_2$	–	*to disgrace*
		adj.	–	–	'vanskapt$_2$	*deformed*
ør-	ON	adj.	–	–	'ørliten$_2$	*diminutive*

1.3. Prefixes with both Accent 1 and Accent 2

Prefix	Origin	Base	Accent	Imperative	Infinitive	Indef.sg.	Gloss
'an-	WGmc	verb	1	'anstill$_1$	'anstille$_1$	–	*to hire*
		noun	2	–	–	'anbud$_2$	*estimate*
'av-	ON	verb	1	'avtal$_1$	'avtale$_1$	–	*to arrange*
		noun	2	–	–	'avgift$_2$	*fee*
'bi-	WGmc	verb	1	'bilegg$_1$	'bilegge$_1$	–	*to settle*
		noun	1	–	–	'bilag$_1$	*enclosure*
		noun	2	–	–	'bisak$_2$	*side issue*
'hen-	WGmc	verb	1	'henfør$_1$	'henføre$_1$	–	*to classify*
		noun	2	–	–	'hensikt$_2$	*intention*
'ned-	ON	verb	1	'nedtegn$_1$	'nedtegne$_1$	–	*to put to paper*
		noun	2	–	–	'nedbør$_2$	*precipitation*
'om-	ON	verb	1	'ombring$_1$	'ombringe$_1$		*to deliver*
		noun	2	–	–	'ombud$_2$	*civil office*
'opp-	ON	verb	1	'oppdag$_1$	'oppdage$_1$	–	*to discover*
		noun	2	–	–	'opphold$_2$	*pause*
'på-	ON	verb	1	'pågrip$_1$	'pågripe$_1$		*to arrest*
		noun	2			'påkrav$_2$	*reminder*
'til-	ON	verb	1	'tilhør$_1$	'tilhøre$_1$		*to belong to*
		noun	2			'tildriv$_2$	*motivation*
'unn-	WGmc	verb	1	'unnskyld$_1$	'unnskylde$_1$		*to excuse*
		noun	2			'unntak$_2$	*exception*
'ut-	ON	verb	1	'utesk$_1$	'uteske$_1$		*to challenge*
		noun	2			'utbrott$_2$	*escape*

2. Non-native prefixes – classified by accent

2.1. Prefixes with Accent 1

Prefix	Example	Gloss	Prefix	Example	Gloss
a(n)-	'asosi,al$_1$ 'analfabet$_1$ a'morf$_1$	*unsocial;* *illiterate* *amorphous*	makro-	'makrokosmos$_1$	*macrocosm*
			maksi-	'maksisuksess$_1$	*great success*
andro-°	andro'gyn$_1$	*androgyne*	mega-	'megatonn$_1$	*megaton*
ante-	antece'dent$_1$	*anticedent*	meta-	meta'språk$_1$	*metalanguage*
anti-°	'antistoff$_1$	*antibody*	midi-	'midiskjørt$_1$	*midi skirt*
	anti'gen$_1$	*antigen*			
antro-	antropo'sof$_1$	*antroposophist*	mikro-	mikro'skop$_1$	*microscope*
bi-	biga'mi$_1$	*bigamy*	milli-	'millimeter$_1$	*millimeter*
bio-	biogra'fi$_1$	*biography*	mini-	'miniskjørt$_1$	*miniskirt*
centi-	'centimeter$_1$	*centimeter*	mono-	mono'log$_1$	*monolog*
de-	demon'tere$_1$	*dismantle*	multi-	'multinasjonal$_1$	*multinational*
des-	'desorien,tert$_1$	*confused*	non-	non'figurativ$_1$	*abstract*
di-	dif'tong$_1$	*dipthong*	orto-	orto'doks$_1$	*orthodox*
dia-	dia'log$_1$	*dialogue*	pan-	pante'isme$_1$	*pantheism*
dis-	'disharmo,ni$_1$	*disharmony*	para-	para'meter$_1$	*parameter*
dys-	dyslek'si$_1$	*dyslexia*	poly-	polyga'mi$_1$	*polygamy*
eks-	eks'port$_1$	*export*	post-	post'skriptum$_1$	*postscript*
eu-/ev-	eu-/evfe'misme$_1$	*euphemism*	pre-	pre'fiks$_1$	*prefix*
geo-	geogra'fi$_1$	*geography*	pro-	pro'nomen$_1$	*pronoun*
giga-	giga'watt$_1$	*gigawatt*	proto-	proto'typ$_1$	*prototype*
hetero-	hetero'gen$_1$	*heterogeneous*	pseudo-	pseudo'nym$_1$ (psev)	*pseudonym*
homo-	homo'fil$_1$	*homosexual*	re-	re'tur$_1$	*return trip*
'hyper-	'hyperkritisk$_1$	*hypercritical*	retro-	retro'fleks$_1$	*retroflex*
il-	'illo,jal$_1$	*disloyal*	semi	'semifinale$_1$	*semifinal*
im-	im'port$_1$	*import*	super-	'superelegant$_1$	*super elegant*
in-	influ'ere$_1$	*influence*	tele-	tele'fon$_1$	*telephone*
inter-	'internasjo,nal$_1$	*international*	trans-	trans'port$_1$	*transport*
intra-	intrave'nøs$_1$	*intravenous*	ultra-	'ultrafiolett$_1$	*ultraviolette*
iso-	iso'morf$_1$	*isomorph*	uni-	uni'form$_1$	*uniform*
ko-	koopera'sjon$_1$	*cooperation*	øko-	'økosystem$_1$	*ecosystem*
kon-	kon'form$_1$	*conformable*			
kontra-	'kontraordre$_1$	*counterorder*			
kvasi-	'kvasifilosofi$_1$	*quasi-philosophy*			

° with schwa Accent 2: andro'ide$_2$ *android*, anti'pode$_2$, *antipode*

2.2. Prefixes with Accent 2

Prefix	Example	Gloss
erke-	'erkefiende$_{2}$	*archenemy*
vise-	'visepresident$_{2}$	*vice-president*

2.3. Prefixes with both Accent 1 and Accent 2

Prefix	Accent	Example	Gloss
ad-	1	ad'verb$_{1}$	*adverb*
	2	'adjektiv$_{2}$	*adjective*[91]
hypo-	1	hypo'konder$_{1}$	*hypochondriac*
	2	hypo'fyse$_{2}$	*pituitary gland*
meta-	1	'metaspråk$_{1}$	*metalanguage*
	2	meta'tese$_{2}$	*metathesis*
sub-	1	'subkul$_{\text{ˌ}}$tur$_{1}$	*subculture*
	2	'substantiv$_{2}$	*noun*
syn-	1	syner'gi$_{1}$	*synergy*
	2	syn'tese$_{2}$	*synthesis*

91. There seem to be different *ad-* prefixes – *at-*, *åt-* Nouns: *'advent*, *'adgang*, *'adkomst* ‘access’, Verbs: *'advare* (åt), *'adskille* (at),

3. Derivational suffixes – classified by accent

3.1. Suffixes with Accent 1

Suffix	Origin	Category	Example	Gloss
-'anse	non-WGmc	noun	konfe'ranse$_1$	*conference*
-'ant/-'ent	non-WGmc	noun	musi'kant$_1$	*musician*
			diri'gent$_1$	*conductor*
-as			'kjekkas$_1$	*show-off*
-'ere[92]	non-Gmc	verb	plas'sere$_1$	*to place*
-ert	(WGmc)	noun	'kikkert$_1$	*spy glass*
-e'ri	(WGmc)	noun	brygge'ri$_1$	*brewery*
-'ett	non-Gmc	noun	bud'sjett$_1$	*budget*
-'ikk	non-Gmc	noun	ly'rikk$_1$	*lyric poet*
-is	Swedish	noun	'kompis$_1$	*buddy*
-isk (cf. -sk)	WGmc	adj.	euro'peisk$_1$	*European*
-'isme	non-Gmc	noun	bud'dhisme$_1$	*Buddhism*
-ist	non-Gmc	noun	ling'vist$_1$	*linguist*
Suffix	Origin	Category	Example	Gloss
-i'tet	non-Gmc	noun	stabili'tet$_1$	*stability*
-'ment	non-Gmc	noun	pig'ment$_1$	*pigment*
-sel	ON	noun	'varsel$_1$	*warning*
-'sjon	non-Gmc	noun	funk'sjon$_1$	*function*
-'ør/-or	non-Gmc	noun	fri'sør$_1$	*hair stylist*
			'doktor$_1$	*doctor*

3.2. Suffixes with Accent 2

Suffix	Origin	Category	Example	Gloss
-ende	ON	adj.	'spennende$_2$	*exciting*
		adv.	'bommende$_2$	*absolutely*
-else	WGmc	noun	'dannelse$_2$	*education*
-(er)-ske	WGmc	noun	'syerske$_2$	*seamstress*
-esse	non-Gmc	noun	prin'sesse$_2$	*princess*
-ine	non-Gmc	noun	blon'dine$_2$	*blonde*
-inne	WGmc	noun	sange'rinne$_2$	*female singer*
-ig	ON	adj.	'disig$_2$	*hazy*
-(n)ing	ON	noun	'festning$_2$	*citadel*
			'bygging$_2$	*building*
-ne	ON	verb	'likne$_2$	*to resemble*

92. This final schwa is the infinitive suffix.

Suffix	Origin	Category	Example	Gloss
-re	WGmc	verb	'stolpre$_2$	*to toddle*
-sk[93]	ON	adj.	'himmelsk$_2$	*heavenly*
-som	ON	adj.	'lang,som$_2$	*slow*
-'øse	non-Gmc	noun	suf'fløse$_2$	*female prompter*

3.3. Suffixes with both Accent 1 and Accent 2

Suffix	Origin	Category	Accent	Example	Gloss
-bar	WGmc	adjective	1	'middel,bar$_1$	*indirect*
			2	'bruk,bar$_2$	*useable*
-dom	ON	noun	1	'usssel,dom$_1$	*indirect*
			2	'alder,dom$_2$	*age*
-er	ON/ Wgmc	noun	1	'magiker$_1$	*magician*
			2	'lærer$_2$	*teacher*
Suffix	Origin	Category	Accent	Example	Gloss
-full	ON/ Wgmc	adjective	1	'mangelfull$_1$	*deficient*
			2	'frydefull$_2$	*joyfull*
-het	WGmc	noun	1	'klar,het$_1$	*clearness*
			2	'lumpen,het$_2$	*meanness*
-lig	ON	adjective	1	'ordentlig$_1$	*oderly*
			2	'rolig$_2$	*calm*
-skap[94]	ON	noun	1	'gal,skap$_1$	*insanity*
			2	'troll,skap$_2$	*magic*
-aktig	WGmc	adjective	1	'fabel,aktig$_1$	*fabulous*
			2	'barn,aktig$_2$	*childish*
-messig	WGmc	adjective	1	ma'skin,messig$_1$	*mechanical*
			2	'regel,messig$_2$	*regular*

93. According to Faarlund et.al *-isk* is a loan from German which most often attaches to other loans. The suffix *-sk* is a native suffix that attaches to native words.

94. Gjert Kristoffersen brought a generalisation here to our attention – adjectival first constituents tend to always have Accent 1, and nominal Accent 2 when suffixed with {-skap}. This generalisation can be said to apply - but not without exceptions ('ridderskap$_1$ 'knighthood', 'adelskap 'nobility', etc.).

4. Inflectional suffixes
– classified by accent

4.1. Suffixes with Accent 1

Suffix	Form	Category	Example	Gloss
-st	INDEF SUPERLATIVE	adj.	'bakerst$_1$	*back*$_{\text{SUPERLATIVE}}$

4.2. Suffixes with Accent 2

Suffix	Form	Category	Example	Gloss
-e	INFINITIVE	verb	'komme$_2$	*to come*
-et	PRETERITE	verb	'kastet$_2$	*throw*$_{\text{PRETERITE}}$
-de	PRETERITE	verb	'levde$_2$	*live*$_{\text{PRETERITE}}$
-ere	COMPARATIVE	adj.	'bakere$_2$	*back*$_{\text{COMPARATIVE}}$
-ste	DEF SUPERLATIVE	adj.	'bakerste	*the back most*
-te	PRETERITE	verb	'lyste$_2$	*shine*$_{\text{PRETERITE}}$

4.3. Suffixes with both Accent 1 and Accent 2

Suffix	Form	Category	Accent	Example	Gloss
-e	AGREEMENT	adj.	1	so'lideste$_1$	*most solid*
			2	'nye$_2$	*new*
¨-er	PLURAL	noun	1	'bøker$_1$	*books*
-er	PLURAL	noun	2	'gutter$_2$	*boys*
-er	PRESENT	verb	1	'kommer$_1$	*come*$_{\text{PRESENT}}$
			2	'snakker$_2$	*talk*$_{\text{PRESENT}}$

B. Acoustic study (Trondheim Norwegian)

– List of test words and pitch contours

1. Breakdown of test words used in ANOVA

1.1. Verbs

Accent–1 prefix stress	**Accent–1 stem stress**	**Accent–2 prefix stress**	**Accent–2 stem stress**
'avtale		'mistale	'tale
		'medføre	'føre
'tilkjenne		'miskjenne	'kjenne
'innstill			'stille
'påkjøre		'samkjøre	'kjøre
		'misbruke	'bruke
'oppleve			'leve
Total: 5	**0**	**5**	**7**

1.2. Nouns and adjectives

Accent–1 prefix stress	**Accent–1 stem stress**	**Accent–2 prefix stress**	**Accent–2 stem stress**
	'v̆illa		'vingene
	'ĕkkel		
	'nŏbel		
	'fĕlles		
	'fĕngsel		
	'fingeren		
Total: 0	**6**	**0**	**1**

The glosses for the test words are:

For Accent 1: '*avtale*$_1$ ‘to make an appointment’, '*tilkjenne*$_1$ ‘agree’, '*innstille*$_1$ ‘to adjust’, '*påkjøre*$_1$ ‘to run into’, '*oppleve*$_1$ ‘to experience’, '*ekkel*$_1$ ‘disgusting’, '*felles*$_1$ ‘common’, '*fengsel*$_1$ ‘prison’, '*villa*$_1$ ‘villa’, '*nobel*$_1$ ‘noble’, '*fingeren*$_1$ ‘finger/the’;

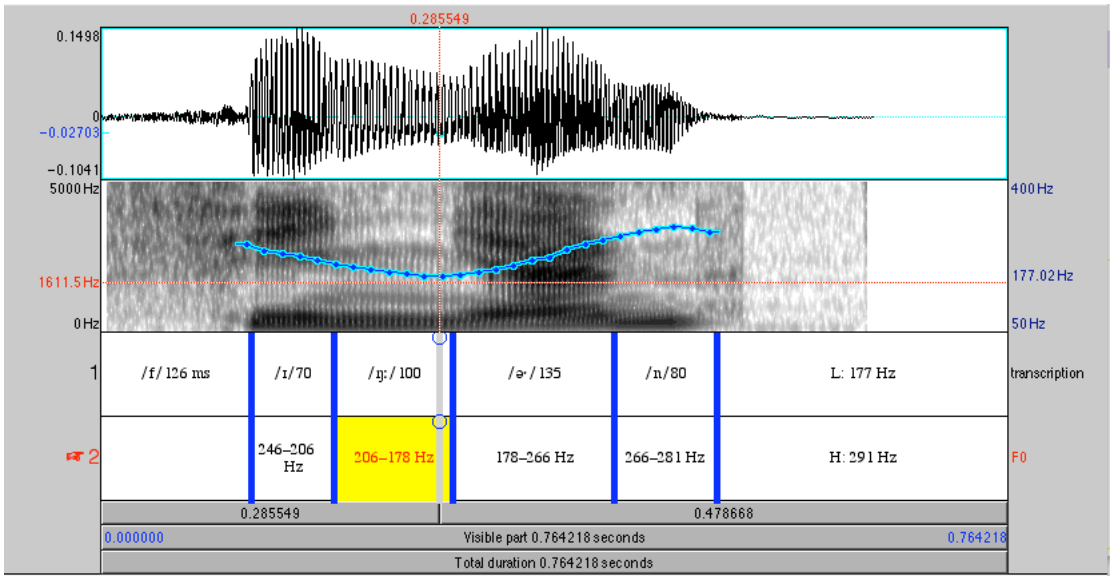
For Accent 2: '*mistale*$_2$ ‘to make a slip of the tongue’, '*medføre*$_2$ ‘to bring with’, '*miskjenne*$_2$ ‘to misjudge’, '*samkjøre*$_2$ ‘to coordinate’, '*misbruke*$_2$ ‘to misuse’, '*tale*$_2$ ‘to talk’,'*føre*$_2$ ‘to guide’, '*kjenne*$_2$ ‘to know’, '*stille*$_2$ ‘to place’, '*kjøre*$_2$ ‘to drive’, '*bruke*$_2$ ‘to use’, '*leve*$_2$ ‘to live’, '*vingene*$_2$ ‘wings/the’.

2. Pitch contours of non-prefixed words with stem stress

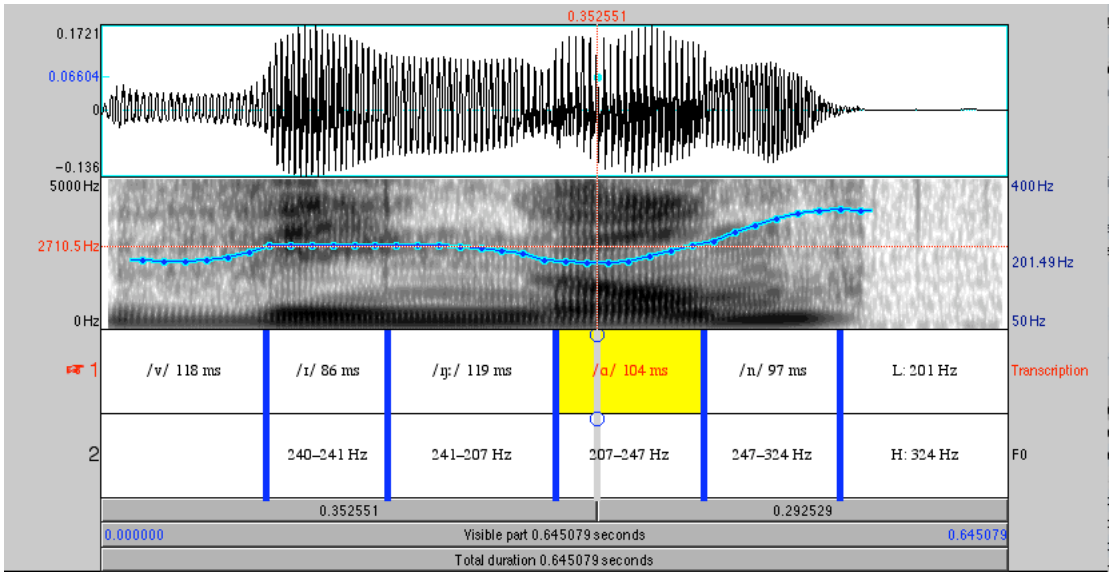
Pitch contours of the segmentally similar words '*fingeren*$_1$ 'finger/the' and '*vingene*$_2$ 'wings/the' of all seven native speakers of Trondheim Norwegian. [95]

2.1. Speaker F1

Disyllabic utterance of '*fingeren*$_1$



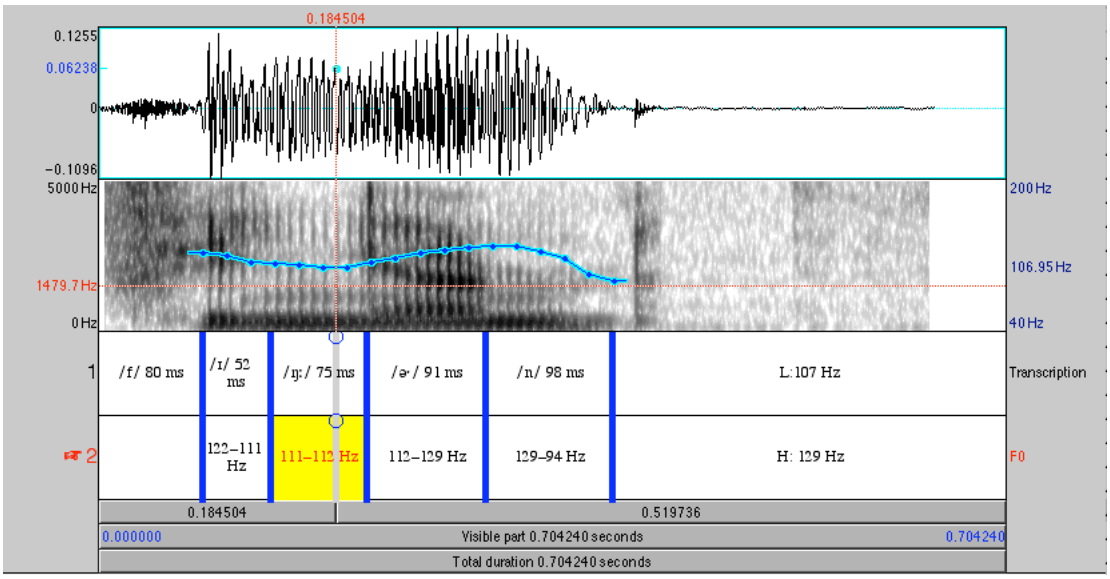
Disyllabic utterance of '*vingene*$_2$



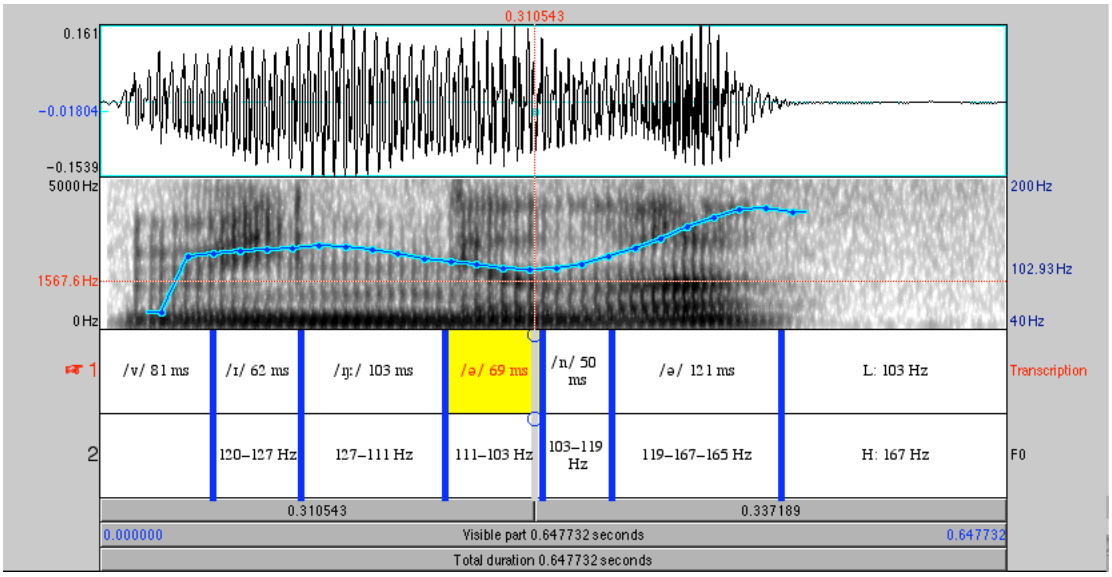
95. Below each speech wave are two rows with information. The top row contains each segment, and its length in milliseconds and to the far right the minima in Herz. The bottom row contains the F0 at the onset and offset of the segment, and to the far right the maxima in Herz.

2.2. Speaker M2

Disyllabic utterance or '*fingeren*$_1$

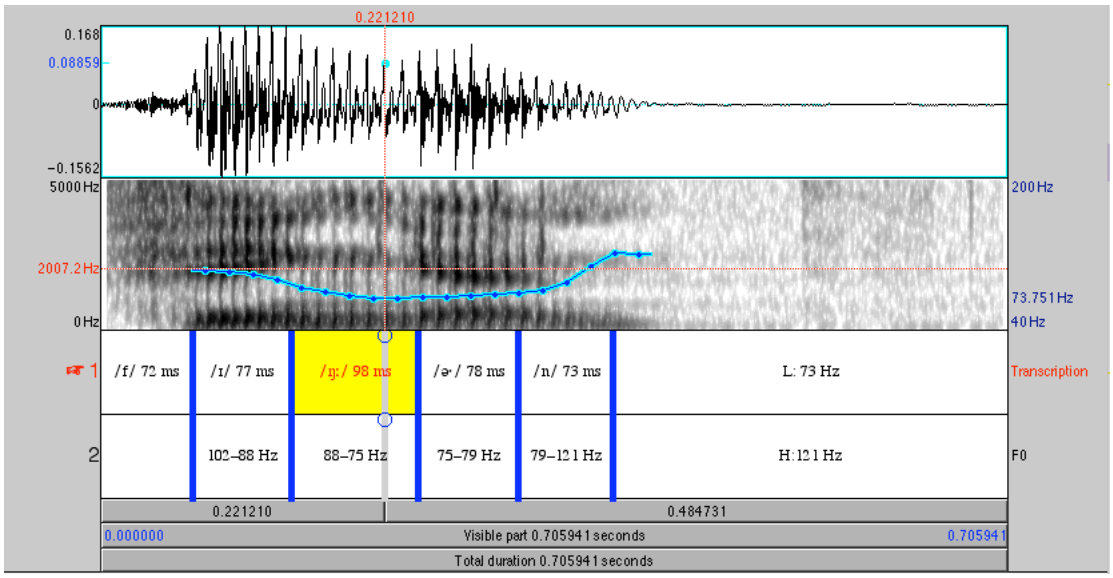


Trisyllabic utterance of '*vingene*$_2$

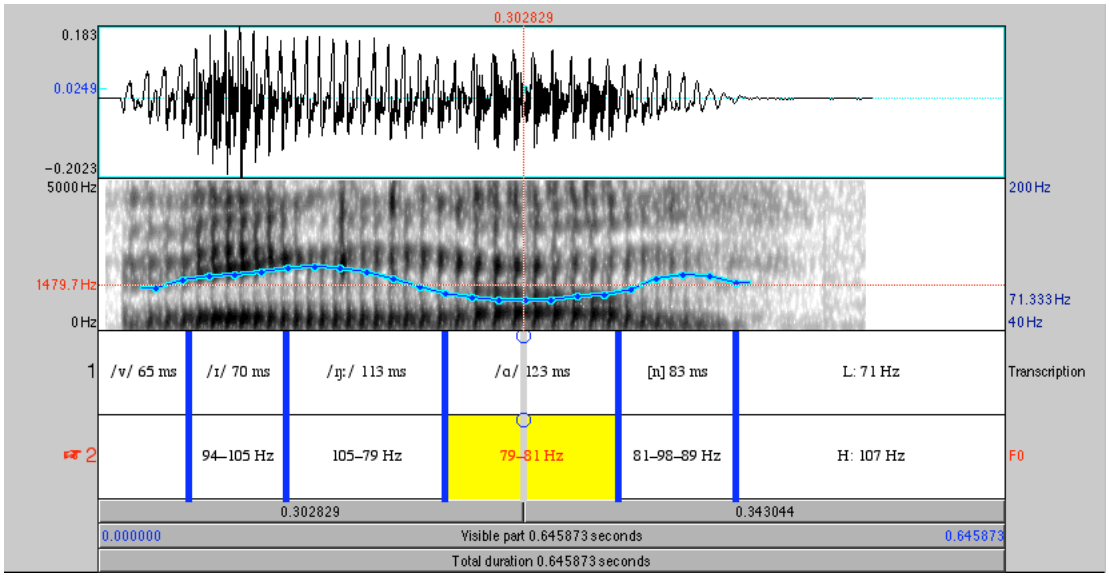


2.3. Speaker M3

Disyllabic utterance of '*fingeren*$_1$ (disyllabic)

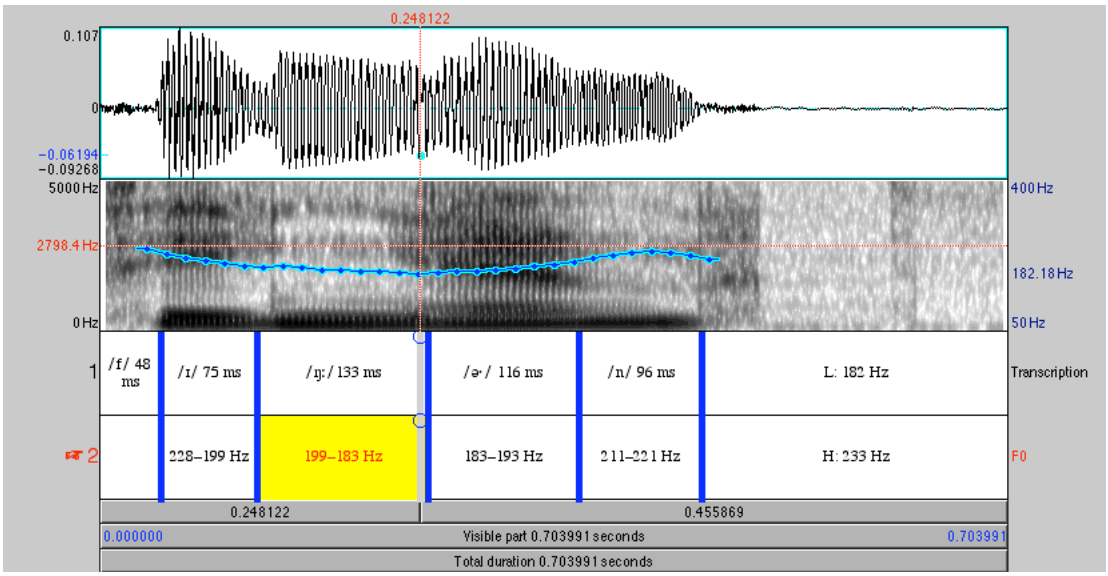


Disyllabic utterance of '*vingene*$_2$

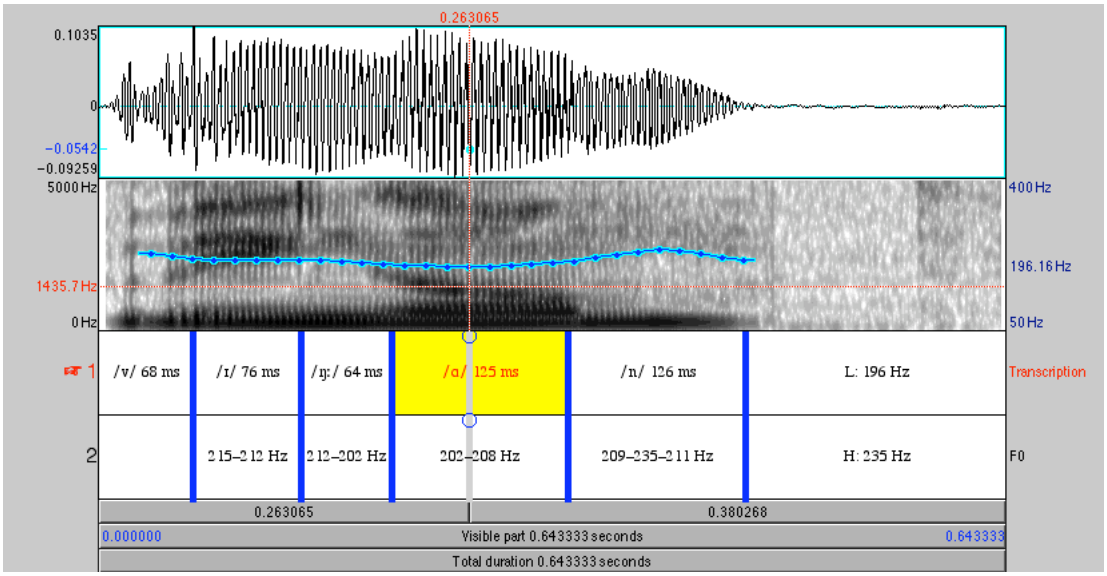


2.4. Speaker F4

Disyllabic utterance of '*fingeren*$_1$

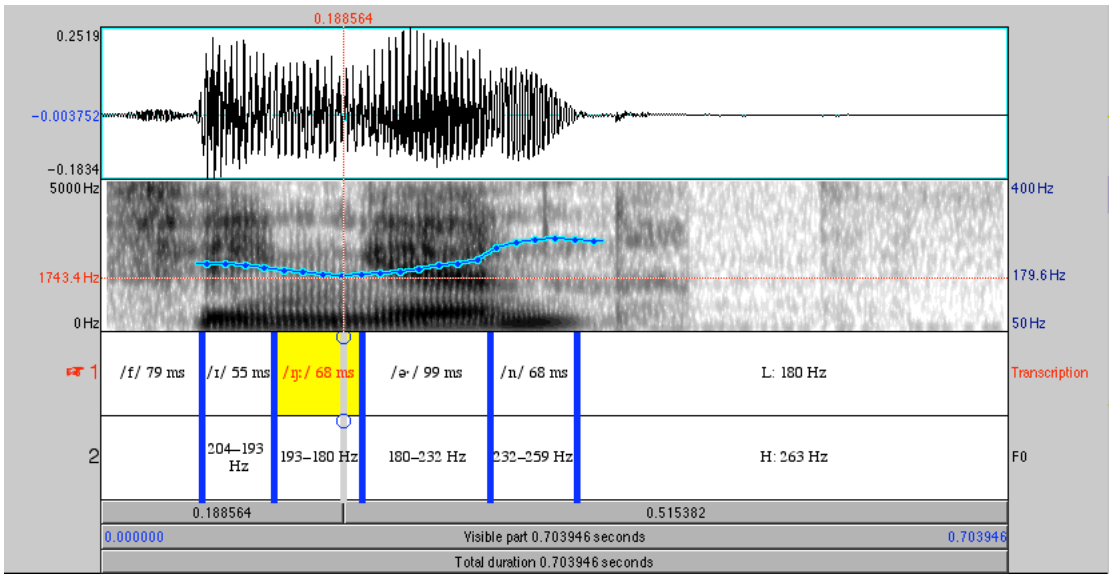


Disyllabic utterance of '*vingene*$_2$

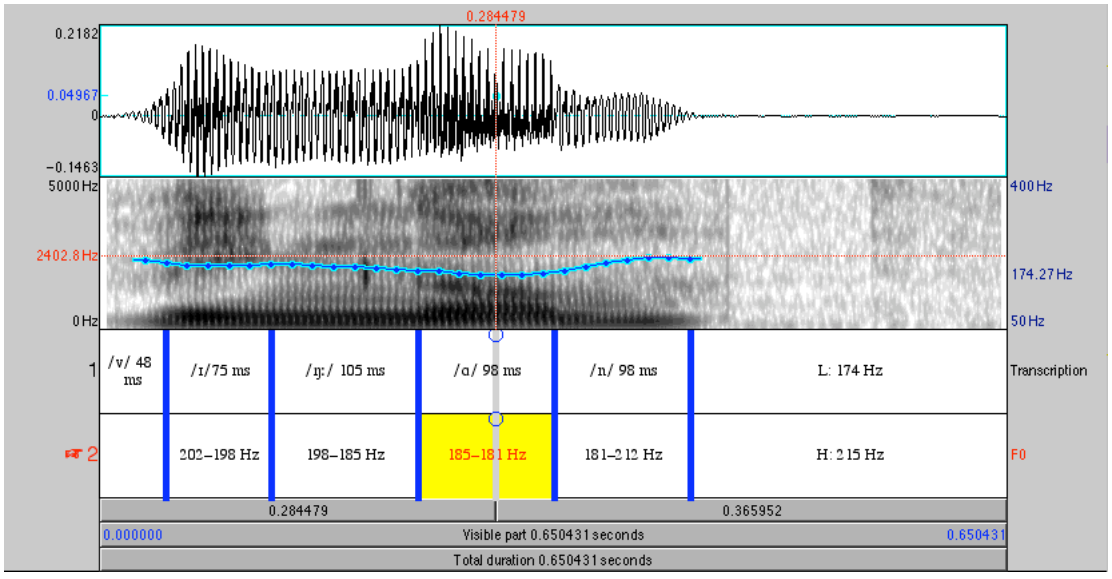


2.5. Speaker F5

Disyllabic utterance of '*fingeren*$_1$

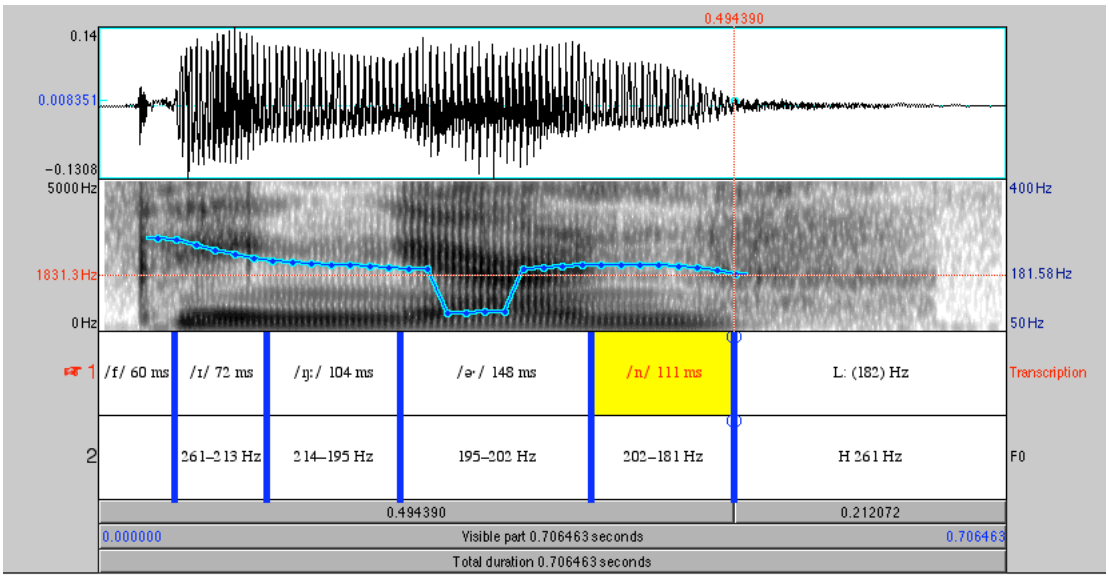


Disyllabic utterance of '*vingene*$_2$

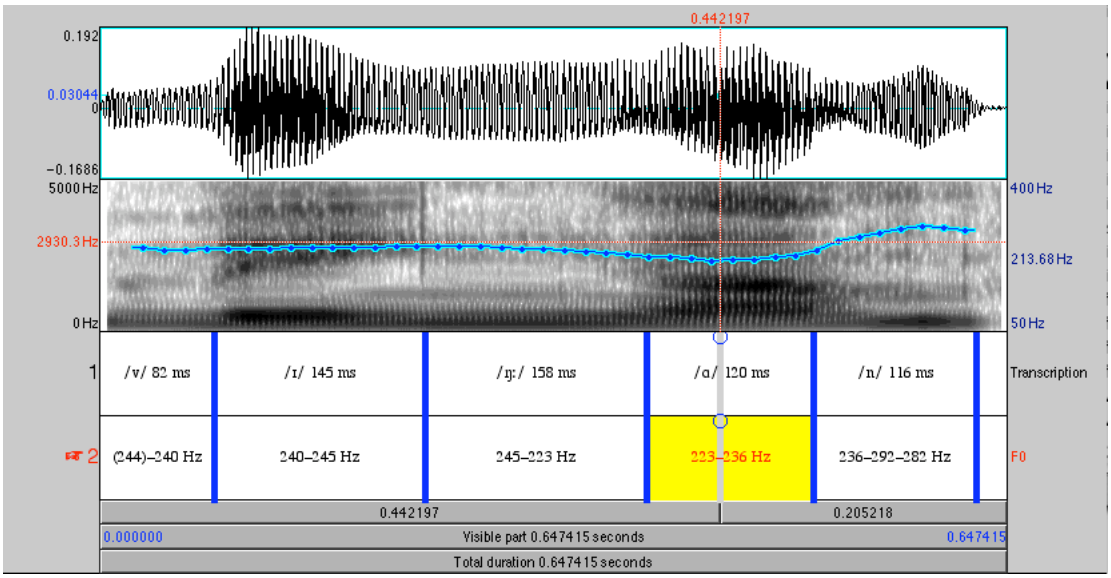


2.6. Speaker F6

Disyllabic utterance of '*fingeren*$_1$ (with creak)

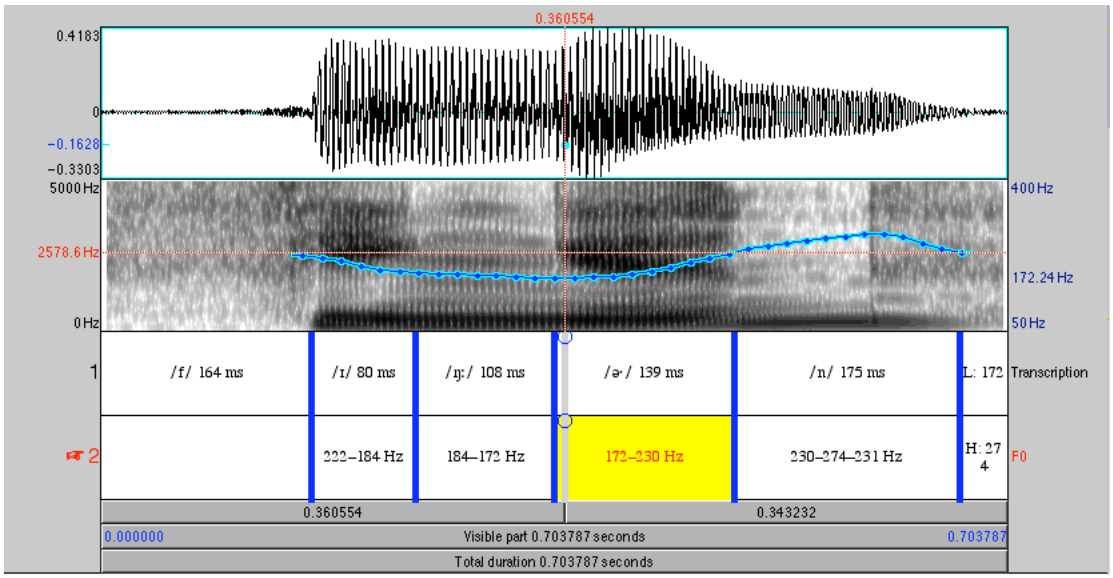


Disyllabic utterance of '*vingene*$_2$



2.7. Speaker F7

Disyllabic utterance of '*fingerne*$_1$



Trisyllabic utterance of '*vingene*$_2$