The Oslo Dialect of Somali

Tonal adaptations of Norwegian loanwords

Nina Hagen Kaldhol

LING4190
MA thesis in linguistics
Department of Linguistics and Scandinavian Studies
UNIVERSITY OF OSLO

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Abstract

This thesis presents the first linguistic investigation of the Somali language as it is spoken in Norway. The goal is to describe what happens to Norwegian words when they are borrowed by Somali speakers. Both languages have simple tone systems, and this study explores what happens when these two systems meet: Do Norwegian loanwords show the same tone patterns as native Somali words, or is Norwegian tone preserved when words are borrowed by Somali speakers?

Previous research on loanword prosody suggests that the former is likely when the recipient language has strong restrictions on tone. In Somali, the distribution of tone is governed by and predictable from grammatical features, so the same principle may apply here. However, previous research also suggests that such restrictions may be violated in loanwords in situations of intimate language contact. The speakers in the present study are bilinguals living in Norway, and use both Norwegian and Somali every day. Therefore, their borrowing provides a test case for these two competing possibilities.

The material presented here was collected during fieldwork in Oslo, and consists of spontaneous speech from nine native Somali speakers, in addition to some elicited forms. The results suggest that in most cases, the tone patterns of Norwegian loanwords are in accordance with native Somali morphological tone assignment. In some cases, though, Norwegian tone is preserved in violation of these restrictions. There are even cases where both strategies are found in different locations within the same word. This results in words with two high tones, which is surprising because native Somali words have maximum one.

Hyman’s property-driven approach to prosodic typology is adopted when describing and comparing Norwegian and Somali. The results are explored in light of the typological profiles of the prosodic systems of the two languages, as well as the language contact situation and type of bilingualism involved. The study is intended to contribute to already existing bodies of research on both loanword adaptations and bilingual competence. Because loanword adaptations illustrate the rules and processes that are active in a language, this study also sheds new light on the Somali language system.
Acknowledgments

The greatest thing about working on this thesis is that I got to meet so many wonderful people. First of all, I had no less than three supervisors:

Sverre Stausland Johnsen has been challenging me constantly for a year now. By disagreeing with me all the time (sometimes even pretending to, I suspect), he has made me look at things from different angles and trained me in spotting weaknesses in my own reasoning. We have had a lot of good laughs, and I am very glad that he is not afraid of a good discussion. I am also endlessly grateful for how seriously he takes his job as a supervisor.

Hanne Gram Simonsen is possibly the most enthusiastic and motivating person I know. Her support has been invaluable in this process. So has her eye for details, academic input, and good ideas. She even spent valuable emerita time on supervising me, for which I am very grateful.

Guri Bordal Steien believed in my project from day 1, and joined the team of supervisors pro bono (!). I am very glad that I met someone who shared my passion for prosody and was up for nerdy conversations about murky concepts like accent and prominence. She also suggested conferences, shared Praat-scripts and showed immense support all along.

Huge thanks go out to all three of you, for all the inspiring discussions we have had this year, for a lot of useful literature suggestions, for answering e-mails at all hours, and for being such thorough readers. I am especially glad that you have had such different views and opinions. This has forced me to make my own decisions, and I have learned a lot from this process.

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I would also like to thank Morgan Nilsson and Laura Downing for inviting me to Gothenburg, for introducing me to their Somali-speaking students, and for long nice chats and fika. Morgan also answered an awful lot of e-mails with questions about Somali, and helped out with comments on some of the weirder examples I encountered in my data.
I am grateful to Nicola Lampitelli for very useful comments on selected chapters, and for literature suggestions and general interest in my project.

Huge thanks go out to Sara Marie Niday for proofreading the final draft. All errors left are, needless to say, my own.

This year, I have learned that linguists are very nice and helpful people. I was welcomed into the small, but happy family of Somali linguists at CALL 2016 in Leiden. At FiNo 2017 I was welcomed into the equally small and happy family of phonologists in the Nordic countries. I am very grateful for all the nice discussions and useful comments and ideas that I got at these conferences, and to all the people who willingly have answered questions and e-mailed papers on request: Morgan Nilsson, Laura Downing, Nicola Lampitelli, Martin Orwin, Giorgio Banti, Wim van Dommelen, Gjert Kristoffersen, Thorstein Fretheim, Maarten Mous and Yoonjung Kang (and anyone I forgot to mention). I would also like to thank Jardar Abrahamsen for answering stupid questions about his superb IPA keyboard (which is highly recommended, by the way!).

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Oslo, May 2017
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<td>tone-bearing unit</td>
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<td>Urban East Norwegian</td>
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<td>V</td>
<td>vowel</td>
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<tr>
<td>VEN</td>
<td>ventive</td>
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<tr>
<td>Ø</td>
<td>zero (toneless)</td>
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1 Introduction

This is the first linguistic study of the Somali language as it is spoken in Norway. The data presented here were collected during fieldwork with nine native Somali speakers living in Oslo. Language contact between Somali and Norwegian is a recent phenomenon, which opens up a number of possible lines of investigation. The main goal of this thesis is to describe how Norwegian loanwords are tonally adapted when borrowed by Somali speakers. This aim will be elaborated on in section 1.1. The Somali language and people are introduced in 1.2, and background information about Somali speakers in Norway is provided in 1.3. A note on transcription and glossing follows in 1.4, before the structure of the thesis is outlined in 1.5.

1.1 Aim of thesis

The main research question in this study is how Norwegian loanwords are tonally adapted when borrowed by Somali speakers. As we will see in chapters 4 and 5, both Norwegian and Somali have tone systems, but with different properties. This study explores what happens when these two systems meet. Is Norwegian tone ignored or preserved when words are borrowed by Somali speakers? If the former is the case, is tone assigned in accordance with the native Somali patterns? If the latter is the case, how is Norwegian tone interpreted and adapted to the tone system in Somali?

As we will see in chapter 8, both strategies are attested in the data: sometimes prosodic properties of the input is preserved, and sometimes tone is assigned in accordance with the native Somali patterns. The two strategies may even be used in different locations inside the same word. This results in words with two high tones, which is surprising because most native Somali words only have one (see chapter 4). These results will be explored in light of the typological profiles of the prosodic systems of Norwegian and Somali, as well as the language contact situation and type of bilingualism involved. The study is intended to contribute to already existing bodies of research on both loanword adaptations and bilingual competence. Loanword adaptations arguably illustrate the rules and processes that are active in a language, and may provide evidence to justify the linguistic analysis of that language (Hyman 1970). Therefore, this study also sheds new light on the Somali language system.

1.2 The Somali language

Somali is classified as an Afroasiatic language belonging to the Cushitic branch (Ethnologue: Lewis, Simons, and Fennig 2017). It is the official language of Somalia, but it is also spoken in all neighboring countries: Djibouti, Kenya and Ethiopia (Mous 2012). Somali is probably the best documented and most studied Cushitic language (Saeed 1999). It
is also the second largest Cushitic language with its 16 million speakers (Lewis, Simons, and Fennig 2017).

Somali can be divided into three dialect groups, Northern Somali, Benaadir and Ashraaf (Banti 2013). Northern Somali is spoken in Somaliland/northern Somalia, Djibouti, eastern and southern Ethiopia, north-eastern Kenya and the adjoining regions in southern Somalia. The term Northern Somali is thus somewhat misleading, as this dialect is widespread and spoken even in the south. The two other dialect groups are spoken in the central part of the wider Somali speaking region: Benaadir is spoken in Somalia in a smaller area around Mogadishu and Merka. Ashraaf is used mainly for in-group communication in several families of Mogadishu, Merka and some smaller settlements along the intervening coast.

Somalia is often used as an example of a monoglot state. But as pointed out by Appleyard and Orwin (2008), such a statement does not accurately reflect the situation. Although the vast majority of Somalia’s population have Somali as their first language, there are also communities speaking Oromo and Boni (other Cushitic languages), KiBajuni and Chimiwini (varieties of the Swahili language complex, Bantu) and Mushungulu (another Bantu language) (Appleyard and Orwin 2008). Ethnologue (Lewis, Simons, and Fennig 2017) also lists Standard Arabic and the two ex-colonial languages English and Italian. In addition, the Somali language has been in contact with several other languages in the neighboring countries, such as Amharic, Afar and Harari (Banti 2013). Another instance of language contact is the trade routes along the coastline. Seamen, traders and soldiers traveling across the Indian Ocean ensured contact between Somali and Arabic, Persian, Hindi, Urdu, Tamil and Malay, or pidgins based on these languages (Cardona 1988). Previous studies of loanwords in Somali will be summarized in section 4.7.

The Somali Civil War broke out in the 1980s, and the diaspora has been growing ever since. There are few, if any, studies of what happens to the Somali language in the resulting new contact situations.

1.3 Somali speakers in Norway

There are now about 41,000 immigrants from Somalia in Norway, including those who are born in Norway to foreign-born parents (SSB 2017, see table 1.1). It is the third largest group of immigrants in Norway. About 15,000 of them live in Oslo. According to a report from the Norwegian government,¹ some Somalis came here as early as the 1970s or 1980s, but as a group, they are still considered new in Norway. The reason for this is that at the time the report was written (in 2009), among half of them had lived here for less than five years. There were about 22,000 Somalis in Norway at this point (according to the report), a number which has almost doubled since then. In other words, a large proportion is still new in Norway.

1.4 A note on transcription and glossing

1.4.1 Transcription conventions

In this thesis, Kristoffersen’s (2000) transcription conventions are used for Norwegian words. These will be described in section 5.1. Different conventions are used for Somali words, and these are described in section 4.1. The latter set of conventions is used as basis for transcribing Norwegian loanwords in Somali. Orthographic transcriptions will also be used at times (see section 5.4 for Norwegian, and 4.4 for Somali). Examples from the material will be presented as illustrated in (1). The first line shows an orthographic transcription of a Somali sentence containing a Norwegian loanword, which is marked in boldface.

(1) Waxaan wac-ay Lóonekaasá-da.
FOC.1SG call-PST.1SG proper.noun-F.DEF
'I called Lånekassa.'
[lóonekaasáda] < [²ɭoːnəˌkɑsɑ] Lånekassa ‘The Norwegian State Educational Loan Fund’

Tone is not marked in the official Somali orthography, so it is not marked here either, except in the Norwegian loanword (acute accent [´] symbolizes a high tone). In other words, the fact that tone is left out in the orthographic transcription of Somali words does not necessarily mean that these words are toneless (in the example above, wáxaan has an initial high tone, and wacay is toneless/low-toned). The information is not included because it is not relevant for the study.

The second line contains interlinear morpheme-to-morpheme glosses (see section 1.4.2), and the third a translation to English. The fourth line shows a broad phonetic transcription.
of the loanword and its Norwegian input form (with different transcription conventions, as mentioned above), followed by the Norwegian orthographic representation and the English translation equivalent.

1.4.2 Glossing conventions

Because the overall syntactic, morphological and discourse context is important when describing tone assignment in Somali (see section 4.5), the sentences where Norwegian words were used were analyzed in detail and glossed according to the Leipzig Glossing Rules (LGR). Sometimes the list of standard abbreviations in LGR lacked a certain feature, in which case a new abbreviation was made. These are listed in (2) (a complete list of abbreviations used in this thesis was provided on page xiii).

(2) Additional glosses

- CONJ = conjunction
  Used with the conjunction oo, used to conjoin verbal groups and clauses, and when introducing appositive relative clauses (see Saeed 1999 p. 120 and p. 215)

- ITIVE and VEN = itive and ventive
  Used with the itive particle sii and the ventive particle soo, respectively (see Bourdin 2005)

- FEM = feminine occupation
  Used for the derivational suffix -ad

- OPT = optative

- REM = remote
  Used with the remote definite article -kii/-tii (see Saeed 1999 p. 112)

- SUBORD = subordinate
  Used with subordinate verb forms (see Saeed 1999 p. 93)

The two particles sii and soo are analyzed as adverbs by Saeed (1999) and as pronouns by Zorc and Osman (1993). Word class aside, they are used to express directional deixis. Roughly speaking, the itive particle sii indicates direction away from the deictic centre, and the ventive particle soo indicates direction towards it (see Bourdin 2005). The remote definite article -kii/-tii is used with nouns referring to entities that are remote in time (e.g. in the past) or in space (e.g. out of view). It is also used as a form of discourse anaphora, picking out entities introduced earlier in the discourse (see Saeed 1999 p. 112 and 246). The Somali particle la can be analyzed as an indefinite subject pronoun (Zorc and Osman

\[\text{Max Planck Institute for Evolutionary Anthropology, Department of Linguistics, Leipzig, Germany.}
\text{https://www.eva.mpg.de/lingua/resources/glossing-rules.php}\]
1993). Here, the two LGR abbreviations INDF (indefinite) and SBJ (subject) were combined to form the gloss INDF.SBJ.

1.5 Outline of thesis

This thesis is structured as follows. In chapter 2, the theoretical framework used is explained, and certain tools for describing and comparing prosodic systems are introduced. In chapter 3, previous research on borrowing, loanword adaptations and loanword prosody is discussed. The phonologies of Somali and Norwegian are described in chapters 4 and 5. Based on the background presented in chapters 2-5, two competing hypotheses are introduced and discussed in chapter 6. The methodology used to test these hypotheses is described in chapter 7, including information about the fieldwork situation, the participants in the study, and the procedure used for analyzing the data. The results are described in chapter 8 and discussed in chapter 9. Some ideas for future research will be suggested in chapter 9, and the thesis concludes with a summary in chapter 10.
2 Theoretical framework

In this chapter, prosodic features such as tone and stress are introduced and defined (2.1). As we will see in chapter 3, previous research on loanword prosody has considered when and why prosodic properties of the input form is preserved, and when it is ignored. One of the factors that has been suggested to influence the choice between these two options is the typological profile of the source and recipient languages. In chapters 4 and 5, the prosodic systems of Somali and Norwegian will therefore be described and compared. In order to do that, a word-prosodic typology is needed. Hyman (2009) has argued that such a typology should not be limited to grouping languages into ”types” and putting labels on them (such as tone, stress or pitch accent). Rather, one should describe their properties directly and in detail. This is the approach taken in this thesis.

There is a paradox involved in typological studies. On the one hand, theory is absolutely essential when doing typology. On the other, what we want to typologize is the linguistic data, and not the linguists’ analysis of these data (Hyman 2006 p. 252). A descriptive approach is taken in this thesis, and the aim is to be theory-neutral. However, a few tools are needed in order to describe the data properly. These will be borrowed from Autosegmental and Metrical Phonology, discussed in section 2.2. Hyman’s (2006) approach to word-prosodic typology is discussed in section 2.3, followed by a note on the term prominence in 2.4.

2.1 Prosody

Odden (2005) defines prosodic properties based on what they relate to, i.e. as properties ”’above’ the segment which pertain to syllabification, length, stress and rhythm” (p. 336). *Above the segment* means that these properties are not properties of single vowels or consonants, but longer stretches (e.g. syllables). There are three main parameters that form the basis of prosodic properties, namely pitch, length and loudness (Cruttenden 1997 p. 2). These parameters can be combined in various ways to express different prosodic categories. In this section, the prosodic category tone and its perceptual and acoustic properties are discussed (2.1.1) and compared to intonation, stress and accent (2.1.2).

2.1.1 Tone, pitch and fundamental frequency

*Tone* is a linguistic term that refers to the use of pitch as a phonological category that distinguishes words (Yip 2002 p. 5). For example, the syllable *yau* in Cantonese can have six different tones, resulting in six different meanings. These are listed in (3) (ibid. p. 2).
2.1 Prosody

(3) **yau in Cantonese**

- high level: 'worry'
- high rising: 'paint (noun)'
- mid level: 'thin'
- low level: 'again'
- very low level: 'oil'
- low rising: 'have'

**Pitch**, on the other hand, is a perceptual and domain-general term, which also applies to e.g. musical notes and bird calls. It can be thought of as our perceptual grouping of sounds on a scale from low to high (Schnupp, Nelken, and King 2011). For pitch perception to arise, there needs to be a *periodic* sound wave. Periodicity refers to consecutive repetitions of a single short period (ibid ch. 3), in a simple case, a sine wave. However, the relationship between the physical properties of a sound and the percepts it generates is not always straightforward.

Periodicity is quantified as fundamental frequency ($F_0$), which is the number of times the period repeats per second. This number is given in Hertz (Hz), i.e. cycles per second. In the case of the speech signal, each period is a pulse produced by a vibration of the vocal folds. Sounds with long periods and low $F_0$ evoke low pitch, and sounds with short periods and high $F_0$ evoke high pitch. An $F_0$ difference between two sounds is not necessarily perceived as a pitch difference, because it might be too small to be detected by humans. $F_0$ is therefore a purely acoustic term, and describes properties of the sound wave (Yip 2002 p. 5).

Periodic sound waves give rise to pitch perception, and pitch differences can be used in linguistically meaningful ways. When a linguistic tone is referred to as high (H), and another one as low (L), the pitch difference between the two is relative: It is not the case that a H always has the same $F_0$ value (e.g. 250 Hz), or that the difference between the two always is the same interval (e.g. a third, in musical terms). This varies between speakers, and also for a given speaker, e.g. with mood (Yip 2002 p. 11).

2.1.2 Tone, intonation, stress and accent

When the term *tone* is used, it refers to the use of pitch differences to distinguish lexemes, or different inflectional forms of the same lexeme. Pitch differences can also be used in other linguistically meaningful ways. For example, it can be used to distinguish statements, questions and orders. These uses of pitch are postlexical and not referred to as tone, but rather as *intonation*. As Yip (2002) puts it: in English, "'butter' means 'butter' whether it has a high-low or a low-high pattern" (p. 3), as in a question ("Butter?") versus a statement ("Butter.").

A pitch difference can also be a phonetic correlate of *stress*, and at times, it can be hard to distinguish stress and tone (Yip 2002). The main difference is that a H is invariably realized

---

3Note that the meaning of *postlexical* depends on the how the mental grammar is organized in a given theory. The term may be used to distinguish lexical tones that are present in the underlying representations of morphemes, or tones that are changed or introduced via morphological rules, from (intonational) tones that are introduced to mark e.g. phrase boundaries or pragmatic meaning. See Gussenhoven (2004 p. 58-59).
with higher pitch, while stress may be marked through an increase or a decrease in pitch, depending on postlexical factors. Stress will be further discussed and defined in sections 2.2.2 and 2.3.3. In English, stress might also be thought of as a location for intonational tones to be anchored to (see Gussenhoven 2004 p. 22), rather than a phonological category that has pitch as a direct phonetic correlate.

The picture gets even more complicated when considering languages that have been described as having accent, tonal accent or pitch accent. Such systems have been considered to lie somewhere between tone and stress. There is a considerable amount of terminological confusion associated with the term accent. Its meaning in a given work usually depends on the theory of accentual representation prevailing at the time of writing, rather than a theory-independent definition (Downing 2010 p. 410). In section 2.3, these issues are discussed in more detail.

2.2 Autosegmental and Metrical Phonology

In this section, some theoretical assumptions about tone and stress are described, and tools for representing these phenomena are introduced. Tone and autosegmental representations are described in section 2.2.1. Stress and metrical structure are described in section 2.2.2.

2.2.1 Tone and autosegmental representations

One of the fascinating properties of tone, is its tendency to "wander" (Hyman 2011 p. 236). This mobility, in Yip’s (2002) terms, inspired the Autosegmental Phonology framework (Goldsmith 1976). This theory is a continuation of generative phonology as formulated in e.g. Sound Pattern of English (Chomsky and Halle 1968). In these earlier accounts, phonological representations consist of a string of segments. In Autosegmental Phonology, several tiers are posited (Goldsmith 1990 p. 8). Each tier is itself a string, but the tiers differ with regard to what features are specified there. For example, tone can be represented on a separate tonal tier. This can be illustrated as in (4) (ibid. p. 9), with a tonal tier and a segmental tier (which can be further divided into more tiers).

(4) **Autosegmental representation**

```
   H   L
  b u l u
```

An autosegmental representation includes association lines between the tiers. In the hypothetical example in (4) above, there are as many tones as there are vowels, and the tones associate to them one-by-one from left to right. Association does not always happen this way, however: Sometimes there are more tones than there are tone-bearing units (TBUs), or vice versa, and sometimes a tone is associated to another syllable than the one it originated on (Goldsmith 1990 p. 10ff). As we will see in chapters 4 and 5, the tone systems in Norwegian and
Somali are rather simple, and therefore, the following discussion will be limited to spreading and shifting.

Spreading means that a tone associates to more than one TBU. In the Bantu language Chilungu, there are toneless verb roots, but when an H-toned prefix is added to such a root, the H spreads to all except the last syllable (Yip 2002 p. 68). This is illustrated in (5). Here, H is marked with an acute accent (ó), and L is marked with a grave accent (ò). Spreading can be represented autosegmentally with a dotted association line, as in (6).

(5) High tone spreading in Chilungu

<table>
<thead>
<tr>
<th>Toneless verbs</th>
<th>H-toned verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>kú+saakul+a</td>
<td>kú-sáákúl-å</td>
</tr>
<tr>
<td>kú+soobolol+a</td>
<td>kú-sóóbólól-å</td>
</tr>
</tbody>
</table>

(6) Spreading

```
H

ku+soobolol+a → kusooobolola
```

In the Bantu language Chizigula, some verb roots have an H, others are toneless (Yip 2002 p. 66). In H-toned verbs, the H migrates from the verb root to the penultimate syllable of the word. As illustrated in (7), the penultimate syllable can be the root itself, or a suffix, depending on the verb form. This is called shifting, and can be represented autosegmentally as in (8) (Goldsmith 1990 p. 17).

(7) High tone shift in Chizigula

```
Toneless verbs                      H-toned verbs
ku-damany-a  'to do'                ku-lombéz-a   'to request'
kudamany-iz-a 'to do for'           ku-lombez-éz-a 'to request for'
kudamany-iz-an-a 'to do for each other'
```

(8) Shifting

```
H

ku+lombez+ez+an+a → kulombez+ezana
```

Here, shifting is represented as the result of spreading followed by delinking. In this representation, the H has spread to the penultimate syllable, but all but the last association line are broken.

A question that arises is what exactly it is that the tones associate to. In the representations above, there are just tones and segments (vowels and consonants). However, Yip (2002) argues that tones never associate to segments, but rather to prosodic entities (syllables or moras). This hypothesis is based on the observation that apparently, no attested language needs the segment as TBU, but there are languages for which it can be ruled out: For example, there are languages that have syllabic nasals which bear tone, but onset nasals which do not. The
conclusion is therefore that tone associates to the syllable rather than to the segment (see Yip 2002 p. 73-74 for a discussion). Metrical structure and prosodic units are the topic of the next section.

2.2.2 Stress and metrical structure

In SPE (Chomsky and Halle 1968), stress is described as a distinctive feature of the segment. In Metrical Phonology (Liberman 1975; Liberman and Prince 1977), stress is conceptualized as a difference in relative prominence resulting from the organization of syllables, feet and words into a prosodic hierarchy. One way of representing this hierarchy is as a tree structure, like the one illustrated in figure 2.1 (based on the prosodic hierarchy in Blevins 1995 p. 210). The syllable is represented as σ.

\[\text{PhP} \quad \text{Prosodic word} \]
\[\text{Wd} \quad \text{Foot} \]
\[\text{Ft} \quad \text{Syllable} \]

The difference in relative prominence can be represented by labeling the nodes on each level as either strong or weak. An example from Goldsmith (1990 p. 171) is illustrated in (9). For the present purposes, we only need to describe word-level stress, and can remove the phrase level.

\[\text{Wd} \quad \text{Foot} \text{w} \quad \sigma \]  
\[\text{Foot} \text{s} \quad \sigma \]

(9) Athabaskan

Here, the segments are organized into syllables (onset and nucleus segments are grouped together, and separated from coda segments). The syllables are alternating strong and weak, and organized into feet, which also are alternating strong and weak. The feet are organized into a word. Feet and words can be either left- or right-headed. Here, the feet are both left-headed, meaning that their leftmost syllables are strong. The word is right-headed, meaning that its rightmost foot is strong. In this approach, stress means "nothing more or less, formally speaking, than to be in the head-position of a metrical foot" (Goldsmith 1990 p. 171). Athabaskan has initial secondary stress and penultimate primary stress, which is formalized as follows: The syllable with primary stress is dominated by strong nodes only. The syllable with secondary stress is strong, but it is dominated by a weak foot. The remaining unstressed syllables are all weak. This representation captures the idea that primary stress is not just a property of the syllable, but also of the word.
Languages vary with respect to how their prosodic hierarchy is organized, for example to what extent stress assignment is *quantity sensitive*, i.e. sensitive to syllable weight (Hayes 1980). Syllable weight can be represented by the means of *moras* (Hyman 1985). A mora is an abstract unit, of which a light syllable has one, and a heavy syllable has two. Languages vary with respect to what kind of syllable structure is needed for a syllable to be considered as heavy (Gussenhoven 2004). This can be illustrated as in (10) (ibid. p. 17). The mora is represented as $\mu$.

(10)  
\begin{align*}
\text{a. Short vowel} & \quad \text{b. Long vowel} & \quad \text{c. Moraic coda} & \quad \text{d. Non-moraic coda} \\
\sigma & \quad \sigma & \quad \sigma & \quad \sigma \\
C & \quad C & \quad C & \quad C \\
V & \quad V & \quad C & \quad C \\
\mu & & \mu & \mu
\end{align*}

If the rhyme consists of a short vowel, the syllable is light/monomoraic (10a). If the vowel is long, it is heavy/bimoraic (10b). In some languages, coda consonants contribute syllable weight, which means that (C)V syllables are bimoraic and heavy (10c). In others, coda consonant do not contribute to syllable weight, in which case (C)V syllables are light. This is illustrated in (10d), which is prosodically equivalent to (10a). As we will see in chapters 4 and 5, Norwegian has been analyzed as belonging to the former group (10c), and Somali to latter (10d). The onset is regarded as irrelevant for syllable weight and can be associated directly to the syllable, as in the examples above.

The phonetic correlates of prominence/stress vary between languages, and can be variations in pitch, loudness or duration, or combinations of the three (Ladefoged 2003). The phonetic correlates can sometimes be rather subtle, and Hyman (2006) argues that they are even non-existing in some languages. In that case, stress may be just a location referenced by phonological rules. But languages vary greatly in to what extent they “care” about stress (Hyman 2014 p. 78), i.e. how many such rules there are. Some languages might be argued to have neither phonetic correlates of stress nor phonological rules that reference its location, in which case they lack a stress system overall. Hyman’s approach to (word-)prosodic typology is the topic of the next section.

## 2.3 Hyman’s Word-Prosodic Typology

In section 2.1, we saw that distinguishing tone, stress and accent is not a straightforward issue. Some clear definitions and criteria are needed, and Hyman’s (2006, 2009) approach to these issues will be described here.
2.3.1 The accent problem

Both Norwegian and Somali have been analyzed as so-called tonal accent languages, but for different reasons: Somali because its tonal contrast can be described as privative (H vs. Ø) (Hyman 1981) and Norwegian because tone is dependent on stress (Kristoffersen 2000). The two languages thus illustrate the terminological confusion associated with the term accent, which eventually led Hyman to challenge it (Hyman 2001, 2006, 2009, 2011, 2014). He provides definitions of tone and stress to avoid this type of confusion, and these make us able to discard the term accent. These will be introduced in the following sections.

The reasoning behind distinguishing tone and accent seems to be that there is something about the properties of so-called accent systems that makes them less like prototypical tone systems. Yip (2002) argues that there is no absolute division between the two, "just a continuum from 'accent' to 'tone' as the number and denseness of tones increase, and they become freer to move around" (p. 4). The problem with this approach is that these three factors (number of contrasting tones, tonal density and tonal mobility) aren’t necessarily correlated. This means that a language can have a tone system with many contrasting tones, but low tonal density, like Copala Trique (Hyman 2009 p. 219). A language can also have few contrasting tones, and high tonal mobility, which is the case in many Bantu languages (Hyman 2011). It is therefore not possible to place languages on a single-dimension continuum from accent to tone based on these factors. These issues illustrate Hyman’s (2009) main point: So-called accent languages have been labeled as such for widely different reasons, and thus they do not form a coherent group or "type".

There are various properties that have been used as criteria for accent, and an exhaustive list will not be provided here (see Hyman 2009 p. 220 for details, and for a discussion showing that these properties also are found in unambiguous tone systems). When Hyman (1981) analyzed Somali as a language with tonal accent, it was the privative contrast that he used as a criterion (i.e. an analysis of a "surface" H/L contrast as an "underlying" H/Ø contrast). Hyman proposed that in Somali, roots may be unmarked in underlying representations, and accent is introduced via morphological rules sensitive to grammatical categories, features and construction types. This accent may be marked by the linguist as an asterisk, as in inàn ‘boy’ versus inân ‘girl’. This asterisk is later interpreted as an H.

Hyman (2009 p. 224) has later pointed out that a problem with using privativity as a criterion, is that systems with a "surface" H/L contrast may be ambiguous, and either analyzed as H/L or H/Ø, depending on theoretical preferences. It will be assumed here that Somali can be described as either (though Le Gac 2016 has argued that even the L is referenced by the rules

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4The criticism of "accent" also applies to the terms "tonal accent" and "pitch accent", though not intonational pitch accents in the sense of e.g. Pierrehumbert (1980) and Ladd (2008).

5Tonal density refers to how densely the TBUs are distributed. For example, there may be one TBU per word in some languages, while every syllable may be a TBU in others.

6In Hyman’s (1981) analysis, he suggested that we could skip the tone level completely, and rather go straight to the phonetic pitch levels, which he described in terms of integers. For simplicity, H is used here.
in Somali, in which case the non-H tone cannot be a Ø).

### 2.3.2 Tone revisited

While the basics of the analysis in Hyman (1981) still is widely accepted (see e.g. Le Gac 2002; Saeed 1999), Hyman (2001) later regretted the use of the term *tonal accent*. Even the accents in the examples above are indications of *pitch*, whether the linguist decides to represent them with an asterisk or an H. And as mentioned in the introduction to this chapter, what we want to typologize is the linguistic data, and not the linguist’s analysis of them (Hyman 2006 p. 252). Hyman proposed a broad definition of tone to circumvent these issues:

> A language with tone is one in which an indication of pitch enters into the lexical realization of at least some morphemes.

(Hyman 2001 p. 1368)

This definition will include languages like Somali, regardless of the linguist’s theoretical preferences. Another advantage to this definition is that it refers to something that can be observed, namely pitch. Some of the problems with *accent* as it was used in Hyman’s (1981) analysis of Somali, is that it is, in Gussenhoven’s (2004) terms, “an analytical notion, and cannot be measured” (p. 42).

### 2.3.3 Stress revisited

Another possibility would be to say that Somali has a stress system. The tone system in Somali can be explained by referring to the high tone only (see chapter 4), and is thus reminiscent of stress. The difference between tone and stress is described by Hyman (2009) as follows:

> Stress is a structural property in which syllables are metrically hierarchized as relatively strong vs. weak (however this contrast is realized phonetically), while tone is a featural property referring to contrastive relative pitch.

(Hyman 2009 p. 215)

On the one hand, then, the two phenomena have virtually nothing inherently in common. On the other hand, one of the phonetic correlates of stress may be a change in pitch, as discussed in section 2.2.2. So it might be the case that the H in Somali is not an H at all, but an example of stress realized as an increase in pitch.

However, Hyman (2006) regards the following two properties as criterial for stress systems: First, stress is a property of the syllable, never the mora (see also Hayes 1995 p. 49). By this criterion, the H in Somali is clearly not stress, as the (tone) bearing unit is the mora (see section 4.5.1).

Second, in stress systems, there is one and only one syllable with primary stress per word. Put differently, one and only one syllable per word needs to be marked for the highest degree
of metrical prominence for there to be a system of word-level stress. This second criterion is actually two: stress is both obligatory (minimum one) and culminative (maximum one).

The high tone in Somali mostly abides the culminativity criterion, but not the obligatoriness criterion: for one thing, nominative case may be marked by deleting the H, leaving a noun toneless/low-toned (see section 4.5.2). If we follow Hyman’s criteria, listed in (11), the H in Somali is clearly not stress, and in fact, Hyman (2006) assumes that Somali has no stress system at all.

(11) Properties that are criterial for stress systems

1. Stress is a property of the syllable, never the mora.  
   (Hyman 2006 p. 233)

2. (a) Obligatoriness: every lexical word has at least one syllable marked for the highest degree of metrical prominence (primary stress);  
   (b) Culminativity: every lexical word has at most one syllable marked for the highest degree of metrical prominence.  
   (Hyman 2006 p. 231)

Norwegian, on the other hand, has a stress system that meets both of these criteria: Stress is the property of the syllable, and there is one and only one syllable with primary stress per word (see section 5.5). Norwegian and Somali therefore differ in a way that should prevent us from lumping them together in the same category (e.g. by labeling them as tonal accent languages). Norwegian also has a tone system, namely a contrast between L and HL (in Urban East Norwegian). The tonal contrast needs to be specified for at least some morphemes (see chapter 5), and the system therefore meets the definition of tone set up above.

The twist in Norwegian is that tone is dependent on stress: The contrast is only found on syllables with primary stress. One possibility is that this property justifies proposing a third type (which we may call accent) in addition to stress and tone. There are two problems with this approach: First, in Copala Trique, tone is dependent on stress, but there are five contrasting tones (Hyman 2009). Thus we can’t say that Copala Trique lacks a tone system, and it is not clear what we would gain from the label ”tonal accent”. Second, all of the possible different dependency relations are attested: there are languages where tone is dependent on stress, where stress is dependent on tone, where they are co-dependent, and where they are completely independent of each other (Hyman 2006 p. 273-238).

In other words, we don’t need the term accent, but can describe all of the attested systems by referring to just tone and stress. On no level is there a third type that emerges from the data. In this approach, Somali is a language with tone, but not stress. Norwegian is a language with both, where tone is dependent on stress. Both languages have very simple tone

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7 Some proper nouns have two high tones, one on the first mora and one on the last Bóoramé (Saeed 1999 p. 22). These issues will be further described in chapter 4 and 9.
systems, though, and this is possibly why scholars have been reluctant to call them tone languages: they are very different from e.g. Mandarin or Cantonese, which have a higher number of contrasting tones and higher tonal density. Hyman (2009) argues that the problem disappears when we stop labeling languages in the first place. The use of labels like tone language and stress language is in any case arbitrary, because, as Hyman (2006) puts it: "Only certain parameters impress linguists enough to establish language types: within phonology, there is a class of 'click languages', but not 'implosive languages'" (p. 226). He further argues that instead of grouping languages into types and labeling them, the goal of typology should be to describe the linguistic properties directly, and how these properties are distributed across the languages of the world.

### 2.3.4 Properties of prosodic systems

As we have seen in this chapter, the properties that are relevant for tone systems include what the TBU is (the syllable or the mora), how densely these TBUs are distributed (does every syllable/mora carry a tone?), how many contrasting tones there are, and, if there is a stress system, how these two systems interact. Additionally, tone systems can either be paradigmatic (in which case the question is which tone does a given TBU get?) or syntagmatic (in which case the question is where does the tone go?) (Hyman 2009 p. 216). The latter is typically found with systems with a privative contrast (H/O).

Relevant properties for stress systems include whether or not stress is weight sensitive, what the phonetic correlates of stress are and what kind of rules reference the location of stress. Stress is always syntagmatic, but the location of stress may either be predictable by rule, fixed or lexically specified (Hyman 2009 p. 216). In chapters 4 and 5, we will see how this works in Somali and Norwegian.

### 2.4 Prominence

In section 2.2.2, the term metrical prominence was used to refer to stress as it is conceptualized in Metrical Phonology. Note that there is terminological confusion associated with the term prominence as well. It has been used to refer to e.g. metrical prominence (Liberman and Prince 1977), pitch prominence (i.e., variants of a high tone, Kang 2010), prosodic prominence (e.g. an intonational focus tone, Hognestad 2012) or as a cover-term for all of the above (Hyman 2014; Kang 2010). These phenomena result from different phonological systems (e.g. metrical, tonal, intonational) and should not be lumped together to one phonological category.

However, prominence can be thought of as a more general perceptual notion, independent of the particular systems that create the perception. Perceptual prominence can be defined as a "property by which linguistic units are perceived as standing out from their environment" (Terken 1991 p. 1768). Because phenomena such as an increase in pitch or duration make a syllable perceptually more prominent, it can be hard to disentangle stress from tone and vowel
quantity. Sometimes scholars describe languages as having stress, but without providing explicit descriptions of the phonetic correlates that guide the analysis. Therefore, what is described as stress may in some cases result from perceived prominence generated by another type of system (Downing 2010).

Speakers are of course faced with similar issues when learning a second language, though possibly in a more unconscious way. For example, L2 speakers may be aware of some sort of perceptual prominence in the language they are learning, but they may interpret this prominence in terms of the phonological system of their L1. These issues will be brought up again in the discussion in chapter 9.

2.5 Chapter summary

Because languages vary considerably in how their prosodic systems are organized, prosodic typology should not be reduced to labeling these systems, or forcing them into types. Rather, their properties should be described directly (Hyman 2009). This chapter has introduced several concepts that will be used when describing and comparing the prosodic systems of Somali and Norwegian in chapters 4 and 5. Definitions have been provided for tone and stress, and their respective phonetic correlates have been discussed. In addition, a selection of tools for phonological representations of these phenomena have been introduced. Before we turn to Somali and Norwegian, we will have a look at previous research on borrowing and prosodic adaptations of loanwords in other languages.
3 Loanword adaptations

In this chapter, loanword adaptations and how to describe and explain them will be discussed. Because borrowing is a language contact phenomenon, usually involving bilingual speakers, bilingualism will be discussed in section 3.1. A discussion of loanword phonology in general is provided in section 3.2, followed by a section on loanword prosody specifically in 3.3. Here, some attested outcomes of loanword adaptations are described, and some proposed explanations are discussed. These will form the basis for the hypotheses presented in chapter 6.

3.1 Bilingualism

Bilingualism can be defined as the regular use of two or more languages (Grosjean 2010 p. 20). Speakers are therefore bilingual if they need and use two or more languages in their everyday life. This broad definition includes both simultaneous bilinguals, i.e. those who grow up acquiring two languages, and consecutive bilinguals, who start learning a second language after they have acquired their first language. In this thesis, first language (L1) will refer to the first language(s) that a speaker has acquired, while second language (L2) will refer to all languages learned after acquiring L1 (i.e. even the third, or seventh, for that matter). It should be noted, though, that the L1 acquisition process is never really over, and that the L1 language system may be subject to restructuring and attrition (Montrul 2008; Seliger and Vago 1991).

A typical property of bilingual language use, is language mixing. This may take the form of both borrowing and code-switching, which will be discussed in section 3.1.2. A short discussion of Grosjean’s language modes will work as a backdrop for a discussion on the identifying properties of the two phenomena.

3.1.1 Grosjean’s language modes

Grosjean’s (1982, 1989, 2010) idea of the bilingual’s language modes can be seen as a continuum with two endpoints. On the one end is the monolingual mode, which refers to situations where the bilingual is communicating with someone he or she shares only one language with. In this type of situation, bilinguals have to restrict themselves to just this one language, and deactivate the other(s).

At the other end of the continuum is the bilingual mode, which the bilingual enters when communicating with another bilingual. Here, both (or all) shared languages may be activated at the same time, though to various degrees. There might be one base language in the conversation, but other languages are used when needed, either through code-switching or borrowing. Grosjean (1989 p. 9) further distinguishes speech borrowing, which is the type used by bilinguals when in the bilingual mode, from language borrowing, which refers to loanwords that have become part of a language, and also are used by monolinguals. The difference will be further discussed in section 3.2.2.
3.1.2 Borrowing vs. code-switching

The main goal of this thesis is to describe how Norwegian loanwords are adapted when borrowed by Somali speakers. In order to do that, clear criteria are needed for distinguishing borrowing and code-switching. The reason for this is that when a speaker switches to Norwegian, the data illustrates their Norwegian as a second language, rather than Somali as a borrowing language, which is the topic here. These two phenomena are of course related, but the perspective is different.

Code-switching may be defined as "the alternate use of two or more languages in the same utterance or conversation" (Grosjean 1982 p. 145). Distinguishing code-switches and loanwords is not always straightforward, because speakers may code-switch even for single words. Consider the following statement from Grosjean:

A code-switch can be of any length (a word, a phrase, a sentence) and is a complete shift to the other language, whereas a borrowing is a word or short expression that is adapted phonologically and morphologically to the language being spoken. (Grosjean 1982 p. 308)

One problem with this approach is illustrated by Grosjean (ibid. p. 309) himself as a thought experiment: Imagine a Portuguese-English bilingual who speaks English with a strong Portuguese accent. If this bilingual uses an English word in a Portuguese sentence, and the word does not need any Portuguese morphological marking in this context, is it a code-switch or a borrowing? Though the phonology may be Portuguese (an argument in favor of calling it borrowing), it might be intended as a switch to English.

The problems can be summarized as follows: If a speaker switches to another language for a whole phrase, we may classify it as code-switching. But code-switching may also happen on the single-word level. In that case, we may use morphological incorporation as a criterion. If the word needs morphological marking from the base language in the context it occurs in, and it does not show such marking, we may classify it as code-switching. But the word may also occur in a context where it does not need morphological marking from the base language. In that case, we may use phonological incorporation as a criterion. But if the speaker happens to have a strong foreign accent in the language he/she switches to, the word may sound like a phonologically incorporated loanword although it might have been intended as a code-switch.

The latter point is particularly relevant when the speakers are late bilinguals (which is the case for the participants in the present study: see section 7.1), because they typically don’t show native-like proficiency in their L2. Words occurring in a context where morphological marking is not obligatory, are ambiguous and can be either code-switches or borrowings. As we will see in section 7.3.1, such words were included in the analysis in the present study, but classified as bare (meaning suffix-less here) and compared to morphologically incorporated words.
3.2 Loanword phonology

When words are borrowed, they may undergo certain phonological adaptations to fit the structure of the recipient language. Loanword adaptations are therefore like natural *wug*-tests (Berko 1958) in that they allow us to assess speakers’ grammatical knowledge in new ways (Kang 2011). They can therefore shed new light on the native phonology of a language (Hyman 1970), but also inform us about bilingual competence more generally. In the field of loanword phonology, it has been debated whether loanword adaptations happen during perception or production. In section 3.2.1, this debate will be briefly summarized, and in 3.2.2, the issues will be discussed in light of Grosjean’s (1982) distinction between speech borrowing and language borrowing.

3.2.1 The perception/production debate

Nativization of loanwords may provide a direct window into two related, but different processes: first, the perceptual categorization of acoustic cues in terms of the distinctive features relevant to the L1 phonological system, and second, the phonological production grammar illustrated by how phonological processes are observed ”in action” (Calabrese and Wetzels 2009 p. 1). The two processes are foundations for two models of loanword phonology, which mainly differ in their assumptions of what the input to nativization is (ibid p. 2). The two models will be described briefly here.

The nativization-through-perception view (Kenstowicz 2003; Peperkamp and Dupoux 2002, 2003; Silverman 1992; Yip 1993) is that most adaptations happen during the perception of foreign language input. This means that the input to the adaptation process is not the phonological representation of a word in the source language, but rather the acoustic or phonetic signal. In this view, the borrowers are typically monolinguals, with very little knowledge of the source language. On the other hand, the nativization-through-production view (Hyman 1970; Jacobs and Gussenhoven 2000; LaCharité and Paradis 2005; Paradis and LaCharité 1997; Paradis and Prunet 2000) is that nativization is a process of phoneme-to-phoneme mapping. The input form is here an abstract long-term memory representation, which is altered by the native rules/constraints of the recipient language. In this view, the borrowers are necessarily bilinguals, and the adaptation process is one in which a bilingual speaker runs a word from one of his/her languages through the grammar of another.

These opposing views share the assumption that there is only one ”true” process of borrowing, and that discovering the input to the adaptation process (phonological or phonetic) holds the key to understanding the process as a whole. While this may serve as a good starting point for a discussion, it has been argued to be overly simplistic (see Simonović 2015 p. 37ff for a discussion). For example, when speakers are late bilinguals, as the participants in this study are (see section 7.1), their L2 proficiency is not expected to be native-like. Therefore, the most likely scenario is that some nativization happens during perception (i.e. as non-native
L2 perception), while some also happens during production (i.e. as native L1 production).

When describing loanword adaptations, one should bear in mind that they are performed by bilingual individuals (rather than, say, the "language" itself), and information about the type of bilingualism involved should be provided, along with information about the language contact situation. When comparing loanword studies, one should also keep in mind potential differences along these dimensions.

### 3.2.2 Speech borrowing vs. language borrowing

A related methodological issue is whether the object of study is online adaptations (by monolinguals or bilinguals), or established loanwords sanctioned by the norms of the community. There may be differences between the patterns of adaptations and the degree of variability in these two types of situations, but as Kang (2011) points out, they are still related: the output of an initial online adaptation serves as input to the language community, eventually leading to the establishment of norms.

In section 3.1.1, it was mentioned that Grosjean (1989 p. 9) distinguishes *speech borrowing*, which is the type used by bilinguals when in the bilingual mode, from *language borrowing*, which refers to loanwords that have become part of a language, and also are used by monolinguals. The two types are assumed by Grosjean (2010 p. 28) to differ in lexical access: the former refers to looking up a word in the mental lexicon of one language and running it through the grammar of another. The latter is assumed to involve usual lexical access in the base language.

It will be assumed here that the two types are endpoints on a continuum. Norwegian words used by Somalis in Oslo may have more or less conventionalized forms, depending on their frequency of usage in a particular group. The more conventionalized forms may have become part of speakers' Somali L1 lexicon, but speakers may also spontaneously nativize new words from their Norwegian L2 lexicon.

### 3.3 Loanword prosody

In this section, previous research on loanword prosody is briefly summarized. Most studies of loanword adaptation have focused on segmental adaptations, and prosodic or suprasegmental adaptations have received comparatively less attention (Davis, Tsujimura, and Tu 2012; Kang 2010). Moreover, the factors involved in suprasegmental adaptation differ from those involved in segmental adaptation (Kang 2011). The exact number and types of factors, and how they interact, is not fully understood (Davis, Tsujimura, and Tu 2012), but some examples of attested outcomes will be discussed in section 3.3.1. As we will see, several options may be available to borrowers: For example, prosodic properties of the input form may be preserved or ignored. Prosody may also be assigned by the rules of the native phonology of the recipient language. One of the questions posed in loanword phonology is why a given lan-
3.3 Loanword prosody

guage chooses one option over the other. Some possible explanations for this are discussed in section 3.3.2.

3.3.1 Types of attested outcomes

There are at least two broad categories of possible outcomes of suprasegmental adaptations in loanwords (based on Kang 2010): The first category includes examples where input prosodic features in the source language are preserved in the recipient language. The second involves examples where input prosody is ignored, and where stress or tone instead is assigned based on the patterns of the native phonology of the recipient language. The two types will be discussed in turn.

A note on terminology  Kang (2010) distinguishes stress, tone and pitch accent. As discussed in chapter 2, there is a considerable amount of terminological confusion associated with the latter term, and it has been argued that we don’t even need it, if stress and tone are defined as in section 2.3 (Hyman 2006). What Kang refers to as pitch accent will therefore be referred to as tone here. Moreover, Kang (2010) uses the term prominence as a cover term for stress, pitch accents and prominence tones (e.g. an H in a tone system). Prominence is also associated with terminological confusion (see section 2.4). In order to avoid the term, prosody preservation will be used here to refer to what Kang describes as prominence preservation. This way, one may remain agnostic as to what it is that is preserved (e.g. specific features, or a more abstract type of perceptual prominence).

Preservation of prosodic properties in the input form  In some cases, the prosodic properties of a word in the source language are preserved in the recipient language. For example, the syllable that has stress in the source language may get an H in the recipient language, as in English loanwords in Cantonese (12) (Kang 2010 p. 2297). Here, stress is marked with an acute accent (´), and the Cantonese tones are marked with superscripts.

(12)  English loanwords in Cantonese
     mótór →m₀ʰ⁻ta⁴MH
     buffèt →pow⁴feyeH

When both languages involved have a tone system, an H in the source language may be preserved in various ways, for example as an H or an M, as in Hausa loanwords in Gwari (13) (Kang 2010 p. 2297).

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8Notice that Kang (2010) also mentions a third type: In some cases, the prosodic patterns found in loanwords cannot be explained as preservation of features in the input, nor as assigned by the native phonology of the recipient language. For example, Japanese loanwords in Taiwanese Southern Min (TSM) are said to have an MH contour tone which is not present in the input, and not even part of the native TSM tonal inventory. Extraordinary claims require extraordinary evidence (Sagan 1979 p. 62), so for reasons of space, these examples are not discussed further here.
Hausa loanwords in Gwari

\[ \text{a}^{\text{H}} \text{mma} \rightarrow \text{a}^{\text{H}} \text{ma} \quad \text{‘but’} \]
\[ \text{du}^{\text{H}} \text{bu} \rightarrow \text{du}^{\text{M}} \text{bu} \quad \text{‘thousand’} \]

One might of course argue that when an H is mapped onto an M, the H is not really *preserved*, but interpreted as something else. On the other hand, it is not clear why this would be different from interpreting an H in one language as an H in another language. Some scholars assume that linguistic categories are language-specific (cf. Croft 2001; Haspelmath 2012). Moreover, the actual \( F_0 \) realization of a tone, or the shape or steepness of a contour, varies between languages. In many East Asian languages, *phonation* is part of the tone contrast in addition to pitch (Kang 2010; Yip 2002). In other words, equating an H in one language with an H in another is at best problematic.

**Assignment of prosodic properties by the phonology in the recipient language** In other cases, the prosodic properties of a word in the source language may be partially or completely ignored. Instead, prosodic properties may be assigned based on the patterns of the native phonology of the recipient language. For example, if the location of stress in the input form violates the native stress pattern, stress may be shifted to another position. This is the case in loanwords in Finnish, which has initial stress (14) (Kang 2010 p. 2304).

\[ \text{Stress shift in loanwords in Finnish} \]
\[ \text{musik (Swedish)} \rightarrow \text{müsi:kki ‘music’} \]
\[ \text{pirók (Russian)} \rightarrow \text{pí:rakka ‘pie’} \]
\[ \text{vacación (English)} \rightarrow \text{våke:si} \]

In some cases, input stress is preserved in some words and ignored in others. This is the case in Swahili loanwords in Dholuo. Here, an H is usually assigned to the syllable carrying stress in Swahili, which is always the penultimate (15a) (Kang 2010 p. 2298).

\[ \text{Swahili loanwords in Dholuo} \]
\[ \text{a. Stress} \rightarrow H \]
\[ \text{kanísa} \rightarrow \text{ka}^{\text{H}} \text{ni}^{\text{H}} \text{sa}^{\text{L}} ‘church’ \]
\[ \text{kufúli} \rightarrow \text{ki}^{\text{L}} \text{fú}^{\text{H}} \text{li}^{\text{L}} ‘padlock’ (with final vowel apocope) \]
\[ \text{b. All L} \]
\[ \text{simu} \rightarrow \text{si}^{\text{L}} \text{mo}^{\text{L}} ‘telephone’ \]
\[ \text{núsu} \rightarrow \text{nus}^{\text{L}} ‘half’ (with final vowel apocope) \]

The exceptions are monosyllabic words, and bisyllabic words with only open syllables, which are assigned low tones (15b). This low tone pattern cannot be explained by tonotactic restrictions in the native phonology, because there are minimal pairs such as \( \text{ba}^{\text{L}} \text{la}^{\text{L}} ‘partial badness’ \) and \( \text{ba}^{\text{L}} \text{la}^{\text{H}} ‘salt lick’ \) (ibid. p. 2299). It is possible that type frequency plays a role here, causing the all L pattern to be most productive. The examples provided in this section are only intended as a taste, and the reader is referred to Kang (2010) for a more comprehensive survey. See also Davis, Tsujimura, and Tu (2012) for a preliminary taxonomy of loanword prosody.
3.3.2 Proposed explanations

As mentioned above, one of the questions posed by loan phonology researchers, is why speakers choose a given adaptation strategy over another. Some possible explanations for the different outcomes presented in the previous section will be discussed here. There are three main groups of explanations discussed by Kang (2010, 2011): Sociolinguistic factors, the channel of borrowing (written vs. spoken words), and the type of prosodic systems involved. The three categories will be discussed in turn.

**Sociolinguistic factors** First, sociolinguistic factors seem to play a role. Kang (2010) suggests that preservation of prosodic properties in the input is more likely when the degree of bilingualism is high and the language contact is more intimate. We saw in (14) above, repeated here as (16), that loanwords in Finnish follow the native pattern with stress on the initial syllable. While this is true of the homeland variety of Finnish, another pattern is also attested in American varieties of Finnish: In some cases, segments are truncated instead (17) (Kang 2010 p. 2305).

(16) **Stress shift in homeland Finnish**
- musik (Swedish) →músi:kki ’music’
- pirók (Russian) →pi:rakka ’pie’
- vacátion (English) →váke:si

(17) **Truncation in American Finnish**
- garáge →krá:tsi
- apártement →pártmentti

With truncation, input stress may be preserved without violating the native restrictions on stress position. Kang (2010) suggests that the difference in strategy—stress shift vs. segmental deletion—can be explained by the different language contact situations.

Kang (2010 p. 2308) provides a few more examples of situations with a high degree of bilingualism, where preservation of input prosody is frequent in loanwords: Mandarin and Yanbian Korean in China, English and Cantonese in Hong Kong, and English and various African languages, in situations where there is also a local variety of English. Note, however, that in order to assess whether the intimacy of language contact actually plays a role, we would have to measure the difference between comparable groups of speakers.

**The channel of borrowing** The channel of borrowing might also play a role, i.e. whether what is borrowed is a written or a spoken word. Experimental studies suggest that the role of orthography in loanword adaptations might have been underestimated (Vendelin and Peperkamp 2006). The most relevant point for the present study is that if stress or tone is unmarked in the orthography (which is the case for both Norwegian and Somali, see chapters 4 and 5), and a given word is borrowed in its written form, then there is of course no stress or tone to preserve in the first place.
Third, the type of prosodic system also matters. As mentioned above, Kang (2010) distinguishes between three types: stress, tone and pitch accent. She makes the following argument:

Tone and pitch accent languages have a relatively free distribution of prominence and in principle could preserve the prominence of the input language without contradicting native restrictions. (Kang 2010 p. 2295)

We will see in chapters 4 and 5 that this claim does not work for either Norwegian or Somali, whether they are labeled as tone languages or pitch accent languages. In Norwegian, the tone system interacts with the stress system. In Somali, the distribution of the H (or the accent) is restricted by grammatical features. The claim made for stress systems is thus more fitting:

Stress languages, on the other hand, have stricter restrictions on the location of prominence and it is often impossible to faithfully preserve input language prominence in the original position. (Kang 2010 p. 2295)

Kang (2010) also points out herself that input prosody might be ignored even in languages with tone (see 15b above).

The problem with this approach is arguably that languages are forced into ”types”. More accurate explanations may be achieved if we use the property-driven approach to typology advocated by Hyman (2009), where the properties of the prosodic systems involved are described directly (see section 2.3). The important thing is not whether or not a language has a stress system, but rather whether there are restrictions on the distribution of tone or stress, and in that case, exactly what these restrictions are.

### 3.4 Chapter summary

In this chapter, aspects of borrowing and bilingualism have been introduced, and some of the strategies available in prosodic adaptations of loanwords have been discussed. A sample of attested outcomes was described in section 3.3.1. The question of why a given strategy is chosen over other possible ones was discussed in section 3.3.2. It was argued that it is necessary to describe the properties of the prosodic systems involved in detail, rather than just labeling them as stress, tone or accent. In the next two chapters, such descriptions are provided for Somali and Norwegian. In chapter 6, hypotheses for the present study will be presented. These will be based on previous research discussed in this chapter, the properties of the word-prosodic systems of Norwegian and Somali, and the nature of the language contact situation in Oslo.
4 The phonology of Somali

Somali is regarded as one of the best described Cushitic languages, but phonetics and phonology are still two of the weaker areas (Saeed 1999 p. 5). There are no book-length publications available on the phonology of Somali (though there is a Ph.D. dissertation by Orwin 1994).

In this chapter, Saeed’s (1999) grammar has been used as a starting point, but other works are referred to when needed. The dialect described here is the Northern Somali dialect. Transcription conventions are described in section 4.1. The segmental phonology of Somali is briefly discussed in section 4.2, followed by a section on syllable structure and syllable weight in 4.3. The Somali orthography is presented in 4.4, before tone is discussed in section 4.5. The main properties of Somali prosody are summarized in 4.6. The chapter concludes with a brief summary of previous studies of loanwords in Somali (4.7).

4.1 Transcription conventions

In this thesis, Somali words and Norwegian loanwords in Somali are transcribed in broad IPA. Due to the uncertainties regarding the phonological status of the [± ATR] contrast in Somali vowels (see section 4.2.1), the distinction is not marked. The segmental phonology is in any case of less importance here. Geminate consonants are transcribed as two consecutive consonants, as in [warran] ’give news’. Long vowels are transcribed as two consecutive vowels, as in [beer] ’garden’. An H is marked by an acute accent (´) on the vowel corresponding to the tone-bearing mora, as in [ínan] ’boy’. Syllable boundaries are not marked except when relevant for the discussion, in which case they are marked by the conventional dot, as in [war.ran]. For simplicity, the Somali orthography will also be used at times, and this is described in section 4.4.

4.2 Segmental phonology

In this section, the segmental inventory in Somali is presented (4.2.1), followed by a brief discussion of some internal and external sandhi phenomena (4.2.2 and 4.2.3).

4.2.1 Segmental inventory

The Somali consonant inventory is illustrated in table 4.1 (based on Saeed 1999 p. 7). There are certain restrictions on their distribution, and these will be discussed in section 4.3 on syllable structure.

Orthographically, Somali has the five vowels a, e, i, o, u. Phonologically, however, these vowels come in two sets, illustrated in table 4.2. One set has been described as more fronted than the other (Andrzejewski 1955; Armstrong 1934). According to Saeed (1999), they are
differentiated by the feature *advanced tongue root* (ATR). There is a system of vowel harmony, so words can either have [+ATR] vowels or [-ATR] vowels, but not both (see Andrzejewski 1955; Armstrong 1934; Mohamoud 2013). Saeed (1999) uses the vowel chart illustrated here in figure 4.1, to give the reader an impression of the vowels’ "typical values" (p. 12). There are minimal pairs, such as [ɔr] or 'chant, chorus' (ibid. p. 13), but there are few of them. Andrzejewski (1955 p. 572) mentioned some individual variation: [kiʃ] 'bag' might be [-ATR] for one speaker and [+ATR] for another. The difference

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9Vowels that are [+ATR] are pronounced with the tongue root slightly more forward in the mouth, thus increasing the size of the pharyngeal cavity (Ladefoged and Maddieson 1996).

10Saeed’s ̄o corresponds to an IPA [o].
between the two sets is apparently not that important for lexical distinction, and its phonemic status is not clear (Saeed 1999). Vowel quality is not the main topic of this thesis, and only the five symbols [i], [e], [a], [o], [u] will be used here, as in many other phonological works on Somali (e.g. Hyman 1981; Le Gac 2002; Orwin 1994; Puglielli 1997).

All vowels in Somali occur as both short and long, with little change in vowel quality (Saeed 1999 p. 12). An example of a minimal pair is [taɡ], ‘go’ and [taaɡ] ‘strength’. See section 4.3 for more on vowel quantity and syllable weight. In addition to the monophthongs described so far, Somali also has a set of diphthongs: [ai], [au], [ei], [oi] and [ou]. According to Saeed (ibid. p. 15), all of them come in pairs differentiated by ATR except [oi], which apparently is only [+ATR].

4.2.2 Internal sandhi

The Somali determiners will be important when describing the results in chapter 8, and they are subject to certain sandhi rules which will be described here. They will be illustrated with the non-remote definite article. When the article is used independently, as the head of a noun phrase, the form is ka if it refers to a masculine noun, and ta if it refers to a feminine noun (18).11

(18) a. Ma ka cas mise ka cad baad doon-ay-saa?
Q M.DEF red or M.DEF white FOC.2SG want-PROG-PRS.2SG
’Would you like the red one (M) or the white one (M)?’

b. Ma ta cas mise ta cad baad doon-ay-saa?
Q F.DEF red or F.DEF white FOC.2SG want-PROG-PRS.2SG
’Would you like the red one (F) or the white one (F)?’

When the article is suffixed to a noun, the initial consonant undergoes various sound changes. As a result, the masculine article has the four allomorphs [ka], [ɡa], [ha] and [a], and the feminine article has the four allomorphs [ta], [da], [ɖa] and [ʃa]. The choice is predictable and can be stated as the rules listed in (19-20) (from Saeed 1999 p. 28-29).

(19) a. Suffix initial [k] remains [k] after [b d ɡ f tʃ l n r j]
   [dáb] + [ka] →[dábka] ’the fire’

b. Suffix initial [k] becomes [ɡ] after [ɡ w j u a: o, u:]
   [túuɡ] + [ka] →[túuɡga] ’the thief’

c. Suffix initial [k] becomes [h] after [e] and [o] (usually with accompanying vowel assimilation, see below)
   [aábbbe] + [ka] →[aábbba] ’the father’

d. Suffix initial [k] is deleted after [ɡ ’χ h ʂ h]
   [dúc] + [ka] →[dúca]

11 This example was provided by one of my participants. Orthographic conventions are used in these examples (see 4.4).
(20)  a. Suffix initial [t] remains [t] after
 [b f g n r s]
 [seéft] + [ta] → [seéfta] 'the sword'
b. Suffix initial [t] becomes [d] after all vowels and [' d h g w h j]
 [gúddi] + [ta] → [gúddida] 'the council of elders'

c. Suffix initial [t] becomes [ɖ] after [ɖ]
 [ɡabáɖ] + [ta] → [ɡabáɖa] 'the girl'
d. Suffix initial [t] merges with stem final [l] to form [ʃ]
 [úl] + [ta] → [úʃa] 'the stick'

When noun stems end in a vowel, the set of possible vowels is restricted to [i, e, o] in masculine nouns and [i, o] in feminine nouns. The vowels [e] and [o] are further affected by assimilation rules when suffixes are added: for example, they assimilate to [a] if the suffix is the non-remote definite article -ka/-ta, [i] if the suffix is the remote definite article -kii/-tii. This is illustrated in (21) (from Saeed 1999 p. 30).

(21)  a. [báre] + [ka] → [baráha] 'the teacher'
b. [báre] + [kíi] → [baríhíi] 'the teacher'

4.2.3 External sandhi

Saeed (1999 p. 35) describes a form of external sandhi particularly widespread in Somali, namely coalescence rules which apply when words form part of phrases and sentences. Many of these are obligatory. The morphemes that are involved in these rules are from functional categories and include verbal adpositions, negative words, conjunctions, clitic pronouns and focus words. The following discussion will be limited to the latter two types.

Somali has three focus words: [wáħa], [ajáa] and [báa] (orthographically waxa, ayaa and baa). The latter two immediately follow the focused noun phrase. Both of them coalesce with a following clitic subject pronoun (22-23) (from Saeed 1999 p. 36).

(22)  jäh báa=aan  ṣabb-ai → [jäh báan ṣabbai]
 tea  FOC=1SG drink-PST.1SG
 'I drank some tea.'

(23)  nín-kíi  ajáa=aan lá hadl-ai → [nínkíi ajáan lá hadlai]
 man-M.DEF FOC=1SG with speak-PST.1SG
 'I spoke with the man.'

Baa also coalesces with the preceding noun phrase if it ends in a vowel, as illustrated in (24) (from Saeed 1999 p. 38).

(24)  laʕáɡ-ta  báa=aan ku siín-aj-aa → [laʕágtáan ku siínajaa]
 money-F.DEF FOC=1SG 2SG.OBJ give-PROG-PRS.1SG
 'I will give you the money.'

The clitic subject pronouns also coalesce with the focus word waxa (25) (from Saeed 1999 p. 37). Here, waxa also undergoes vowel assimilation.
4.3 Syllable structure and syllable weight

4.3.1 Syllable structure

Saeed (1999) describes three different syllable types: V, CV and CVC. The V may be either short, long or a diphthong. The possible combinations are illustrated with monosyllabic words in (26) (ibid. p. 16).

<table>
<thead>
<tr>
<th>(26)</th>
<th>a.</th>
<th>b.</th>
<th>c.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>V</td>
<td>CV</td>
<td>CVC</td>
</tr>
<tr>
<td>[ú]</td>
<td>‘to, for’</td>
<td>[kú]</td>
<td>‘in, into’</td>
</tr>
<tr>
<td>[oo]</td>
<td>CONJ</td>
<td>[síi]</td>
<td>‘give to’</td>
</tr>
<tr>
<td>[éi]</td>
<td>‘dog’</td>
<td>[ʕái]</td>
<td>‘insult’</td>
</tr>
</tbody>
</table>

The maximum syllable structure is thus CVC and consonant clusters are not permitted in neither onset nor coda. In polysyllabic words the maximum number of adjacent consonants is two, as in [san.dúuɢ] ‘box’ or [ɖag.ħán] ‘stones’. This includes geminate consonants, which are ambisyllabic. The distinction between single and geminate consonants forms minimal pairs, such as [wáran] ‘spear’ and [wár.ran] ‘give news’ (Saeed 1999 p. 17).

The consonants [k], [t], [w] and [j] do not occur syllable-finally, and neither does [tʃ] (except in loanwords). They do not occur as geminates either, and neither do fricatives. The set of possible geminates is restricted to [b d ɖ ɡ ɢ l m n r] (Saeed 1999 p. 16). There are cases where roots can be analyzed as underlyingly ending in one of the consonants which are disallowed in coda position. Consider the words [árag] ‘see (imperative)’ - [arkai] ‘I saw’. A possible analysis here (Barillot 2008; Barillot and Ségéral 2005) is that the root is *[ark] ‘see’, and that a vowel is inserted in the imperative form because of the illicit coda cluster. The [k] changes to [g] because [k] is disallowed in coda position, rendering [árag]. However, when a vowel-initial suffix is added, the [k] may resyllabify as onset, and surfaces as [k], as in [ar.kai] ‘I saw’. This can be compared to alternations like [málag] ‘kill’ - [mal.gai] ‘I killed’, where the root may be analyzed as *[malg], e.g. as ending in [g] underlyingly. Additionally, *[ark] and *[malg] can be compared to verbs such as [fèded] ‘run away (imperative)’ - [fededai] ‘I ran away’, where the root arguably is [fèded].

4.3.2 Syllable weight

In chapter 2, syllable weight was discussed in relation to stress. It was argued that Somali does not have stress, at least not by Hyman’s criteria discussed in section 2.3.3. Syllable weight is still relevant in other ways in Somali, namely, for the metrics of Somali poetry, and for tone assignment.
In a moraic approach to syllable weight, discussed in section 2.2.2, heavy syllables are bimoraic, and light syllables are monomoraic. It is the rhyme that matters for mora assignment, and onset consonants do not contribute to syllable weight. Coda consonants may be moraic in some languages (such as Norwegian - see chapter 5), but in Somali, moras only attach to vowels. This is illustrated in (27) (here, a long vowel is represented in terms of moraic structure rather than with two consecutive vowels).

\[
\begin{align*}
\text{(27)} & \\
n & \sigma \\
a & u \\
b & u
\end{align*}
\]

A syllable is heavy if the vowel is long, as in [gáab] qaab 'shape' (27a) or there is a diphthong, as in [gaíb] qayb 'part' (27b). CVC syllables are light, like [gáb] qab 'arrogance' (27c).

According to Orwin (1996), this analysis is supported by the metrical rules of Somali poetry. The key to analyzing Somali poetry was discovered by Maxamed Xaashi Dhamac "Gaariye" and Cabdullaahi Diiriye Guuleed (Johnson 1979; Orwin 1996). The four classical genres of Somali poetry are scanned quantitatively, not by e.g. tone or syllables, but by counting moras on the line. Classical Arabic also has a metrical system in which the number of moras in a line is counted, but in Arabic, CVC syllables are heavy (Orwin 1996).

The second line of evidence comes from the tone system in Somali. The TBU in Somali is the mora, which means that bimoraic syllables may carry HL and LH contours, while monomoraic syllables only may carry one tone (H or L). The HL and LH contours are only found with long vowels, never on CVC syllables, even if the coda consonant is a voiced sonorant. There are no examples of HH, but the LH contour may be simplified to a long H. The different possibilities are illustrated in (28) (syllables with only Ls are not illustrated). Tone will be discussed further in section 4.5.

\[
\begin{align*}
\text{(28)} & \\
\text{a.} & \begin{array}{c}
\mu \\
\mu \\
\sigma
\end{array} \\
\text{b.} & \begin{array}{c}
\mu \\
\mu \\
\mu \\
\sigma
\end{array} \\
\text{c.} & \begin{array}{c}
\mu \\
\mu \\
\sigma
\end{array}
\end{align*}
\]

4.4 Orthography

The Somali orthography was developed by linguist Shire Jaamac Axmed and officially introduced in Somalia in 1972 (Laitin 1977). It is based on the latin alphabet, and is illustrated in table 4.3. Each grapheme’s corresponding IPA symbol is found in the second row. In many cases, the letter is the same as the IPA symbol, but [ʔ tʃ h x f d s ɡ] and [j] are transliterated as’, j, x, kh, sh, dh, c, q and y, respectively.
Geminate consonants are written as two consecutive consonants (e.g. *warran* 'news'), with one exception: *ɖɖ* is usually written with one *dh* as in *gabadha*, [ɡabáɖɖa], 'the girl'. Long vowels are written as two consecutive vowels, as in *gees* [ɡeés] 'direction'.

The two graphemes <w> and <y> have two different functions: They may represent the approximants [w] and [j], but also the second vocalic element in diphthongs: [ai], [au], [ei], [oi] and [ou] are thus transliterated as *ay*, *aw*, *ey*, *oy* and *ow*. In *sameynają*, for example, the first *y* is a vowel, and the second a consonant: [sameínajaa] (notice also that the vowel is tone-bearing, which an onset [j] never is). One notable trait is that the two vowel sets ([+ATR] and [-ATR], see section 4.2.1 above) are not distinguished in the orthography. Neither is tone, which is the topic of the next section.

### 4.5 Tone

In this section, the phonetics and phonology of tone in Somali will be discussed (4.5.1), followed by discussions of tone assignment (4.5.2), internal tonal sandhi (4.5.3) and tonal sandhi with determiners, clitics and particles (4.5.4).

#### 4.5.1 Phonetics and phonology of tone

Hyman (1981) showed that the tonal contrast in Somali can be described as H versus L (alternatively, H versus Ø). There is also a falling and a rising tone. The latter two only occur on long vowels and diphthongs, i.e. bimoraic syllables. By assuming that the tone-bearing unit (TBU) is the mora, and not the syllable, the falling tone can be analyzed as a sequence of an H and an L, e.g. on [ɡées] 'horn'. The rising tone can be analyzed as a sequence of an L and an H, e.g. on [ɡeés] 'direction'. The latter is sometimes realized as MH or a long H. $F_0$ trajectories of the four words [ínan] 'boy', [inán] 'girl', [ɡées] 'horn' and [ɡeés] 'direction' are illustrated in figures 4.2-4.5.

Hyman (1981) also showed that there is downdrift inside of phrase boundaries, meaning that each H is pronounced with slightly lower pitch than the preceding H. There is also final lowering, which means that an H occurring pre-pausally is realized as phonetic M, and an L occurring pre-pausally is realized with extra low pitch.

Hyman (1981) further argued that the system can be described by just referring to the distribution of the H, and therefore suggested that the contrast is privative (i.e. high-toned moras contrast with toneless moras, H vs. Ø). The Hs are introduced via morphological rules (which will be described in section 4.5.2). Any mora that does not get an H, gets an L. As mentioned
in section 2.3.3, there is usually one H per word at most, and the H is thus culminative. However, it is not obligatory, because words may be toneless/low-toned (depending on syntactic and morphological factors, see section 4.5.2).

Privativity was the reason why Hyman labeled the system *tonal accent*, which he later regretted (Hyman 2006, 2009) (see section 2.3 for a discussion). Le Gac (2016) has argued that the tonal contrast in Somali is not privative, because there may be rules that reference the L as well. This analysis will not be discussed further here, and the question of whether Somali has an H/L or an H/Ø contrast will be left open. The non-H tone will be referred to as L.

In this thesis, H is marked with an acute accent on the vowel corresponding to the tone-bearing mora (á). L is left unmarked. Rising tones are thus transcribed as áá and falling tones as áa. These conventions are used by e.g. Hyman (1981), Orwin (1996) and Le Gac (2002,
2003, 2016). The rising and falling tones will here be referred to as HL and LH, respectively, although the H and the L are inserted at different points in Hyman’s analysis (i.e. lexically or morphologically and post-lexically). HL and LH are used when describing heavy syllables, to show whether the H is assigned to the first or the second mora.

It should be noted, though, that various other notational systems are also used by other scholars, and any examples borrowed from them are adapted accordingly. Saeed (1999) transcribes the falling tone as àa, following Andrzejewski (1964), and Banti (2016) transcribes the falling tone as âa. They both transcribe the rising tone as áa. The latter is in fact their way of symbolizing a long H rather than a rising tone, reflecting the fact that the rising tone sometimes is realized as a long H (Banti’s (1988) rising tone simplification rule). In these works (Banti 2016; Saeed 1999), the transcription is possibly intended to be closer to the phonetics
than the phonology, but they both accept Hyman’s analysis in its essentials.

There are two main reasons why Hyman’s transcription conventions are adopted here rather than Saeed’s or Banti’s. The first is that the rising tones don’t always simplify: a clear rising tone was illustrated in figure 4.5. The second is that Hyman’s system makes a few generalizations clearer: For example, most masculine nouns have an H on the penultimate mora, such as [inan] ‘boy’ and [gées] ‘horn’, while most feminine nouns have a high tone on the final mora, as in [inån] ‘girl’ and [gëes] ‘direction’. Transcribing [gées] as [gëes] or [gëes] would obscure its relationship with [inan].

4.5.2 Tone assignment

A characteristic property of the Somali tone system, which is shared by most Cushitic languages, is that tone assignment can be described as morphological rather than lexical (Mous 2012). Different tonal patterns are associated with particular grammatical features, either alone or in combination with suffixes with segmental content. First, we’ll consider verbs. There are to my knowledge no minimal pairs of verb lexemes distinguished by tone alone. Instead, the different inflectional features have associated tonal patterns. A few examples are illustrated in tables 4.4 and 4.5 (based on Saeed 1999 p. 88-89).

There are segmental differences between the three conjugations: for example, the imperative stem is used in the present progressive in C1 (table 4.5). In C2 and C3, the infinitive stem is used. Tonally, however, they are the same: the present general is always low-toned (table 4.4). The present progressive always has an H on the mora immediately preceding the progressive suffix -ay (table 4.5). C2 and C3 also have two subclasses. These will not be discussed further here. The Norwegian verbs that occurred in the data fell into the subclass of C2 which is represented here (Saeed’s C2B), i.e. the class of verbs ending in -ee in the imperative (see chapter 8).

Different tonal patterns are also associated with different word classes: all adpositions have an H on the penultimate or only mora, all clitic pronouns have L. This results in some minimal pairs, such as the object pronoun [ku] ‘you’ and the adposition [kú] ‘in, into’ (Saeed 1999 p. 42). Even if there are minimal pairs like [béer] ‘liver’ and [beér] ‘garden’ (ibid. p. 20), which are different lexemes, these two words also differ in grammatical gender: [béer] is a masculine noun and gets the masculine definite article -ka, while [beér] is a feminine noun and gets the feminine definite article -ta. Assuming that gender is an inherent property of the noun that needs to be lexically specified, this might count as lexical tone. However, there seem to be no cases where words with the same grammatical features are distinguished by tonal pattern (Saeed 1999 p. 43).

Nouns can be divided into declensions based on their tonal behaviour. Scholars disagree on how many declensions there are in Somali. The analyses vary from three (Hyman 1981) to ten (Andrzejewski 1964). The differences are partially a result of the fact that different inflectional categories are taken into account. For example, Saeed (1999) describes plural for-
Table 4.4: Present general

<table>
<thead>
<tr>
<th></th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMP</td>
<td>sug 'wait’</td>
<td>yaree 'make small’</td>
<td>joogso 'stop (intr.)’</td>
</tr>
<tr>
<td>1SG</td>
<td>sug-aa</td>
<td>yaree-yaa</td>
<td>joogsa-daa</td>
</tr>
<tr>
<td>2SG</td>
<td>sug-taa</td>
<td>yarey-saa</td>
<td>joogsa-taa</td>
</tr>
<tr>
<td>3SG.M</td>
<td>sug-aa</td>
<td>yaree-yaa</td>
<td>joogsa-daa</td>
</tr>
<tr>
<td>3SG.F</td>
<td>sug-taa</td>
<td>yarey-saa</td>
<td>joogsa-taa</td>
</tr>
<tr>
<td>1PL</td>
<td>sug-naa</td>
<td>yarey-naa</td>
<td>joogsa-naa</td>
</tr>
<tr>
<td>2PL</td>
<td>sug-taan</td>
<td>yarey-saan</td>
<td>joogsa-taan</td>
</tr>
<tr>
<td>3PL</td>
<td>sug-aan</td>
<td>yaree-yaan</td>
<td>joogsa-daan</td>
</tr>
</tbody>
</table>

Table 4.5: Present progressive

<table>
<thead>
<tr>
<th></th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMP</td>
<td>sug 'wait’</td>
<td>yaree 'make small’</td>
<td>joogso 'stop (intr.)’</td>
</tr>
<tr>
<td>1SG</td>
<td>súg-ay-aa</td>
<td>yareýn-ay-aa</td>
<td>joogsán-ay-aa</td>
</tr>
<tr>
<td>2SG</td>
<td>súg-ay-saa</td>
<td>yareýn-ay-saa</td>
<td>joogsán-ay-saa</td>
</tr>
<tr>
<td>3SG.M</td>
<td>súg-ay-aa</td>
<td>yareýn-ay-aa</td>
<td>joogsán-ay-aa</td>
</tr>
<tr>
<td>3SG.F</td>
<td>súg-ay-saa</td>
<td>yareýn-ay-saa</td>
<td>joogsán-ay-saa</td>
</tr>
<tr>
<td>1PL</td>
<td>súg-ay-naa</td>
<td>yareýn-ay-naa</td>
<td>joogsán-ay-naa</td>
</tr>
<tr>
<td>2PL</td>
<td>súg-ay-saan</td>
<td>yareýn-ay-saan</td>
<td>joogsán-ay-saan</td>
</tr>
<tr>
<td>3PL</td>
<td>súg-ay-aan</td>
<td>yareýn-ay-aan</td>
<td>joogsán-ay-aan</td>
</tr>
</tbody>
</table>

Tone assignment is most important for the present purposes, and this is described in detail by Hyman (1981), who treats singulars and plurals as the same for this purpose. He assumes three declensions (or tonal classes). As we will see in chapter 8, Norwegian nouns may fall into any of these declensions when borrowed into Somali, and therefore, we will have a closer look at them here. But because nouns may be case marked tonally, we will first have look at the case system.

Case marking  Somali, as most Cushitic languages, has a case system of the marked nominative type (Mous 2012). In this kind of case system, the subject of both intransitive and transitive verbs is overtly case-marked. The unmarked case form is used for objects (of both transitive verbs and adpositions) and for nouns in isolation, and it is also used as the predicative form of a noun in a verbless sentence.

According to Mous (2012), the nominative is often termed subject case in Cushitic studies, while the unmarked case is called absolutive in line with the unmarked case in an ergative-absolutive system. However, it is not an absolutive case (if it were, the same case form would
have been used for the subject of an intransitive verb and the object of a transitive verb, but it is not). According to Banti (p.c. 2016) it might be a mistranslation of Moreno’s (Moreno 1939 p. 3) term assoluto (used when describing the Cushitic language Oromo), and he argues that we should use the term absolute case. The terms nominative and absolute will therefore be used here (following Banti 2011 p. 696, Sasse 1984, Satzinger 2004). In addition, there is a genitive and vocative case (Saeed 1999 p. 63).

Nominative case marking on bare nouns does not occur very frequently, and there are two reasons for this. The first is that it is blocked by focus marking, i.e. if it expresses new information (Saeed 1999 p. 192). This is illustrated below with the nouns libáax ’lion’ and nin ’man’. Both nouns belong to declension 1, which will be discussed below, and nominative is marked by deleting the H. In (29a), the subject (nin) is in the nominative, while the object (libáax) is in the absolute form, and focused by báa (the focus markers were briefly discussed in section 4.2.3).12

(29) a. **Nominative case marking of nin**

Libáax báa nin dil-ay.
lion FOC man.NOM kill-PST.3SG.M

’A man killed a lion.’

b. **Nominative marking of libaax blocked by focus marking**

Libáax báa nin dil-áý.
lion FOC man kill-PST.3SG.M

’A lion killed a man.’

In (29b), nin is object and retains its H. Libáax is the subject of the sentence, but because it is focused by báa, nominative case marking is blocked (it retains the H). Both nouns thus occur in the absolute case.13

The second reason why nominative case marking of nouns is rare, is that only the last element of the noun phrase gets case marked, and the noun phrase is head-initial. In other words, case is frequently marked on the modifiers rather than the head noun, e.g. determiners, adjectives and relative clause verbs (Saeed 1999 p. 66). The preceding elements are in the absolute case. This is illustrated in (30), a repetition of (29), but in this case with definite nouns. It is the (remote) definite article that is case marked (i.e. its H is deleted).

---

12 The examples in (29-31) were provided by one of my participants.

13 There is also a tonal difference on the verb because the subject is focus marked in the latter but not the former, see Saeed (1999 p. 192).
4.5 Tone

a. **Nominative case marking of the article**

Libáax-íi báa nín-kíi dil-ay.
lion-M.REM.DEF FOC man-M.REM.DEF.NOM kill-PST.3SG.M

'The man killed *the lion.*'

b. **Nominative marking blocked by focus marking**

Libáax-íi báa nín-kíi dil-áý.
lion-M.REM.DEF FOC man-M.REM.DEF kill-PST.3SG.M

'The lion killed the man.'

Focus marking is rarely used in negative declaratives (Saeed 1999 p. 193), and therefore, we get alternations like the ones illustrated in (31). In (31a), the subject (*libáax*) is focus marked, and nominative case marking is blocked. The clause in (31b) is negative, so there is no focus marking, and nominative case marking surfaces (*libaax*).

(31)  
a. **Positive**

Libáax báa kú jir-á sawír-ka.
lion FOC in exist-PRS.3SG.M picture-M.DEF

'There is a lion in the picture.'

b. **Negative**

Libaax kú má jir-ó sawír-ka.
lion.NOM in NEG exist-NEG picture-M.DEF

'There is no lion in the picture.'

Case is marked in different ways depending on declension, which will be described in the following paragraphs. For a description of nominative case marking of noun phrase modifiers, see Banti (1988).

**Declension 1** Hyman’s (1981) declensions can be described as follows. In the absolute form, nouns of D1 have a penultimate H when masculine, and a final H when feminine. One might argue that masculine and feminine nouns should belong to separate declensions due to their differing tonal patterns (an approach taken in Le Gac 2003). The main point here is that for the majority of singular nouns in Somali, tone assignment is predictable from grammatical gender, and thus we can describe them together. Examples are *béer* ‘liver’ and *beér* ‘garden’, as mentioned above. The gender difference is expressed through subject-verb agreement, and also in determiner agreement, thus *béer-ka* ‘liver-M.DEF’, but *beér-ta* ‘garden-F.DEF’.

The H is deleted in the nominative (e.g. *libáax* ‘lion’, *libaax* ‘lion.NOM’). Feminine nouns may take an additional suffix -i (e.g. *naág* ‘woman’, *naagi* ‘woman.NOM’). Genitive is marked by shifting the H to the final syllable (e.g. *libaáx* ‘lion.GEN’). Feminine nouns may take an additional suffix -ood/-aad (*naagoöd* ‘woman.GEN’). When the definite article is added, the
noun is in the absolute form, regardless of whether the noun phrase is a subject or an object (the case distinction surfaces on the article instead). The different patterns are listed in table (4.6).

<table>
<thead>
<tr>
<th>Case</th>
<th>Masculine</th>
<th>Feminine</th>
<th>Tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute</td>
<td>libáax</td>
<td>naág</td>
<td>Penult/final H</td>
</tr>
<tr>
<td>Nominative</td>
<td>libaax</td>
<td>naag-i</td>
<td>No H</td>
</tr>
<tr>
<td>Genitive</td>
<td>libáax</td>
<td>naag-oód</td>
<td>Final H</td>
</tr>
<tr>
<td>Suffixed by definite article</td>
<td>libáax-a</td>
<td>naág-ta</td>
<td>(Stem-)-final H</td>
</tr>
</tbody>
</table>

Table 4.6: Tone assignment to D1 nouns

Declension 2  Nouns of D2 are either masculine and end in -e or feminine and end in -o (both vowels are arguably suffixes, a point we will return to when describing the results in chapter 8). They are described as having a penultimate H in isolation regardless of gender (Hyman 1981 p. 180), but this varies between speakers: for some they have a final H (Morgan Nilsson, p.c. 2016). Examples are waraaibe/waraabé 'hyena' and abeesó/abeesó 'python'.

Le Gac (2003) has shown that for bare nouns of D2, we need to take three factors into account when describing tone assignment: syntactic function, focus marking and position in the sentence. If the noun is focus marked, what matters is its position in the sentence: if immediately preceding a pause, i.e. if [+Final], it will have a penultimate H (Kulmiye) (32a). This may happen when the focus marker is waxa. If the focus marker is baa or ayaa, the noun will be [–Final] (baa and ayaa always follow the noun they are focusing, as described in section 4.2.3), and either has a penult or a final H (Kulmiye/Kulmiyé) (32b).

   day-F.DEF person.name FOC with talk-PST.3SG.M person.name
   'Today, who talked to Yoonis was Kulmiye'

   b. Maán-ta Kulmiye/Kulmiyé ayáa lá hadl-aý Yoónis.
   day-F.DEF person.name FOC with talk-PST.3SG.M person.name
   'Today, Kulmiye talked to Yoonis.'

If the noun is not focus marked, the only thing that matters is whether or not it is a subject: If it is, it takes a penultimate H (Kulmiye) (33a). If it is not, it takes a final H (Kulmiyé) (33b).

(33) a. Maán-ta Kulmiye wúxuu lá hadlay Yoónis.
   day-F.DEF person.name.NOM FOC.3SG.M with talk-PST.3SG.M person.name
   'Today, who Kulmiye talked to was Yoonis.'

   b. Maán-ta Kulmiyé wáxaa lá hadlày Yoónis.
   day-F.DEF person.name FOC with talk-PST.3SG.M person.name
   'Today, who talked to Kulmiye was Yoonis.'
When modified, e.g. by the definite article, these nouns always have a stem-final H (\textit{waraabá-ha} 'hyena-M.DEF', \textit{abeesá-da} 'python-F.DEF'). Tone assignment to nouns of D2 is summarized in table 4.7 (based on Le Gac 2002).

<table>
<thead>
<tr>
<th>Environment</th>
<th>Masculine</th>
<th>Feminine</th>
<th>Tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>[+Focus]</td>
<td>Kulmiyé</td>
<td>abeéso</td>
<td>Penultimate H</td>
</tr>
<tr>
<td>[-Focus]</td>
<td>Kulmiyé ~ Kulmiyé</td>
<td>abeéso ~ abeesó</td>
<td>Final/penultimate H</td>
</tr>
<tr>
<td>Suffixed by definite article</td>
<td>waraabá-ha</td>
<td>abeesá-da</td>
<td>(Stem-) final H</td>
</tr>
</tbody>
</table>

Table 4.7: Tone assignment to D2 nouns

### Declension 3

All nouns in D3 are masculine, and most of them are plurals (e.g. \textit{aayad-ó}, 'miracle-PL'). They all have a final H in isolation. However, there are a few singular nouns as well (e.g. \textit{abtí} 'maternal uncle' and \textit{maroodí} 'elephant'). These thus violate the generalization that masculine singular nouns (not ending in -\textit{e}) have a penultimate H, which was the case for D1 nouns. Hyman (1981 p. 180) describes them as exceptional, and notes that many of them are loanwords (e.g. \textit{albaáb} 'door', Arabic). Andrzejewski (1964) lists 91 such singular nouns (p. 35-38, his D6). Some of these might be archaic by now: Saeed (1999 p. 60, his D2B) notes that there are probably no more than 50 of them, but he does not provide an extensive list. Hyman (1981, footnote on p. 180) also notes that tone assignment in some of these words varies between penult and final H for his consultant. As with the D2 nouns, there seems to be some variation between speakers regarding tone assignment to these words in isolation (Morgan Nilsson, p.c. 2016).

<table>
<thead>
<tr>
<th>Environment</th>
<th>Example</th>
<th>Tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute and [+Final]</td>
<td>albaáb</td>
<td>Obligatory (stem-)final H</td>
</tr>
<tr>
<td>Suffixed by definite article</td>
<td>albaáb-ka</td>
<td></td>
</tr>
<tr>
<td>Focused by \textit{ayaa}</td>
<td>albaáb ayáa</td>
<td></td>
</tr>
<tr>
<td>Elsewhere</td>
<td>albaáb ~ albaab</td>
<td>Optional final H</td>
</tr>
</tbody>
</table>

Table 4.8: Tone assignment to D3 nouns

Disregarding the form used in isolation, the D3 nouns have a final H which is obligatory in certain contexts, and optional in others. As listed in table 4.8 (based on Banti 2016), the H is obligatory when the noun is in the absolute form and occurring pre-pausally (i.e. when [+Final]), when suffixed by a definite article or when focused by \textit{ayaa}. The latter is illustrated with \textit{nimán} in (34a) (from Saeed 1999 p. 45).
Obligatory vs. optional final H in D3

   man-PL FOC came
   'Some men came.'

   man-PL FOC came
   'Some men came.'

Elsewhere, the H is optional, e.g. when focused by baa (34b). This includes non-focused subjects (in such contexts, D1 nouns are nominative case marked and never have an H). Banti (2016) provides the examples in (35), which show that this may result in ambiguities. In both (35a), where gabdhó has an H, and (35b), where it doesn’t, both of the two translations are possible interpretations.14

Ambiguities from optional final H

a. Gabdh-ó má ark-een?
   girl-PL Q see-PST.3PL
   'Did they see some girls?’ or 'Did some girls see (him)?’

b. Gabdh-o má ark-een?
   girl-PL Q see-PST.3PL
   'Did they see some girls?’ or 'Did some girls see (him)?’

The ambiguity also stems from the lack of pronouns in this construction. In the first interpretation, gabdhó/gabdhó is the object, and there is no subject pronoun. In the second interpretation, gabdho is the subject, and there is no object pronoun. The person and number of the subject is marked on the verb, but the tone pattern of gabdho does not work as a cue to whether it is a subject or an object here.

Exceptional words So far, we have seen that for singulars nouns, tone assignment in the absolute case usually is predictable from gender. Masculine nouns have a penultimate H (with a few exceptions), and feminine nouns have a final H. Nouns ending in -e and -o, i.e. the D2 nouns, behave differently. Here, gender is not relevant, but rather focus marking and position in the sentence. Nominative is marked by deleting the H in D1, and by shifting it to penultimate in D2.

The singulars of D3 are exceptional in that they have a final H in the absolute form although they are masculine. Conversely, there are a few exceptional feminine nouns that have a penultimate H in the absolute form. These include sábti-da 'Saturday-F.DEF’ and the numerals 1-4 (36) (from Saeed 1999 p. 69).15 They are not discussed by Hyman (1981) and are therefore not placed in any declension.

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14 Both niman and gabdho are plural forms, but these patterns also apply to singulars of D3.
15 Numerals are nouns in Somali by morphological and syntactic criteria, see Saeed (1999 p. 69).
Feminine nouns with a penultimate H

ków-dá ‘one-F.DEF’
lába-dá ‘one-F.DEF’
sáddex-dá ‘three-F.DEF’
áfár-tá ‘four-F.DEF’

Tone assignment to nouns has so far in the discussion been limited to the penultimate or the final mora. There are, however, proper names that have two high tones, where the first one is initial, e.g. Bóoramé (Saeed 1999 p. 22). This point will be brought up again in the discussion in chapter 9.

4.5.3 Internal tonal sandhi

Different types of tonal sandhi in Somali are discussed by Banti (2016), and summarized in this and the following section. Internal tonal sandhi refers to changes to the tonal patterns of morphemes when they are combined in word-formation processes (inflection, derivation and compounding). Tonal morphemes (morphemes without segmental content, like the tonal case markings discussed above) are not included here. The discussion will be limited to nominal morphology.

When roots or stems are inflected or derived through suffixation, the tonal pattern of the suffix usually prevails, while any Hs in the stem are deleted (37) (from Banti 2016). There seems to be a preference for prosodic right-headedness in Somali, i.e. for the tone to surface on the rightmost element only (Green and Morrison 2016).

(37) Suffixation

xudúud ‘border’ + ó ’PL’ →xuduudó ’borders’
dóqon ‘fool’ + nímo ’-ness’ →doqonnímo ’foolishness’

In compounding, only the final element of the compound carries an H. Green and Morrison (2016 p. 15) point out that even here, the words are prosodically right-headed though usually semantically left-headed. The tone pattern is determined by the gender of the compound (Banti 2016). With N+N compounds, the rightmost noun determines the gender (38).

(38) Compounding

háwl (M) ’work’ + qáran (M) ’nation’ →hawlqáran (M) ’civic duty’
bír (F) ’iron’ + dáñab (M) ’electricity’ →birdánab (M) ’magnet’

With N+Adj compounds, the gender (and thus the tone pattern) of the compound is determined by the noun, leading to contrasts like the one illustrated with wéyn ’big’ in (39-40).

(39) qáb (M) ’pride’ + wéyn ’big’ →qabwéyn (M) ’arrogance’
(Green and Morrison 2016 p. 15)

(40) bád (F) ’sea’ + wéyn ’big’ →badweýn (F) ’ocean’
(Banti 2016)
4.5.4 Tonal sandhi with determiners, clitics and particles

According to Banti (2016), clitics behave differently from suffixes because they (in most cases) don’t change the tone pattern of their host. Determiners are included in his group of clitics, but they are not glossed as such here, because it is not clear whether they all really are (see Green and Morrison 2016). In any case, the same point pertains to them: they don’t change the tone pattern of the noun they attach to, as illustrated in (41) with the remote and non-remote definite articles.

(41) Definite articles
   a. wiil + kii →wiil-kii 'boy-M.REM.DEF'
   b. wiil + ka →wiil-ka 'boy-M.DEF'

In both cases, the stem wiil retains its H, which is not the case when other suffixes are added, as in the examples in (37) above. There are two types of determiners that differ from definite articles in this respect, namely interrogative determiners and the nominatives of possessives (see Saeed 1999 p. 116). In both cases, the H on the host is deleted when these are added. This is illustrated with the interrogative determiner kée in (42) (Banti 2016).

(42) Interrogative determiner
   wiil + kée →wiil-kée? 'which boy?’

There are also some sandhi phenomena resulting from coalescence rules such as the ones described in section 4.2.3. Banti (2016) exemplifies these with nouns followed by the focus word báa and the clitic subject pronoun uu 'he’ (43).

(43) Coalescence
   a. Soór-ta báa=uu keen-ay →Soórtúu keenay
      food-F.DEF FOC=3SG.M bring-PST.3SG.M
      'He brought the food.'
   b. soór-ta uu keen-ayy →soórtuu keenaý
      food-F.DEF 3SG.M bring-PST.3SG.M
      'the food he brought'

The focus word and the clitic subject pronoun coalesce with the definite article -ta to form -túu (43a). The only thing that is left of the focus marker is its H. This can be compared to the relative clause in (43b), where there is no focus marker. Here, -túu is low-toned.

In section 4.5, it was stated that there usually is maximum one H per word in Somali. Because of phenomena like the ones described here, this generalization is problematic: We have seen examples of words with two high tones in (41) and (43), and it is even possible to have three, e.g. in aʃáf-dáy-dii 'my wife’ (Saeed 1999 p. 187). Green and Morrison (2016) have pointed out that the problem with the one tone per word generalization is the failure to provide criteria for distinguishing prosodic and grammatical words (and to define the term word in the
first place, cf. Dixon and Aikhenvald 2002; Haspelmath 2011). The details of their analysis are fairly complex and won’t be discussed further here. But as we will see in chapter 8, Norwegian loanwords may have two high tones on their stem. The culminative property of the Somali H will be discussed further in chapter 9.

4.6 Summary of important properties of Somali prosody

The main properties of the prosodic system in Somali can be summarized as follows. There are only two contrasting tones, H vs. L (which may be described as H vs. Ø). The TBU in Somali is the mora. Tonal density is low: there is usually only one H per word, and some words are low-toned. The H is therefore syntagmatic (i.e. the question is, if realized, where does the H go?). The function of the H is primarily morphological rather than lexical, and the distribution of the H depends on grammatical features. There is no stress system, but a vowel quantity system. The vowel quantity system is independent of the tone system, but the two interact because they are both moraic: tone is assigned to moras, and moras associate to vowels. Only vowel quantity matters for syllable weight in Somali. CVC syllables are thus monomoraic and may only carry one tone (H or L). Contour tones (HL or LH) are restricted to syllables with long vowels, i.e. syllables with two moras (one for each tone).

4.7 Loanword phonology

Previous studies of loanwords in Somali include Mioni (1988) and Diriye Abdullahi (2000) on English and Italian loanwords, Waasuge (1987) on Italian loanwords, Zaborski (1967, 2009), Callegari (1988) and Soravia (1994) on Arabic loanwords, Banti (2013) on loanwords from various Semitic languages and Cardona (1988) and Mansuur (2011) on loanwords from various source languages, including Arabic, Italian, Urdu, Persian and Swahili. While phonological adaptations are discussed in some of these studies, none of them consider tonal adaptations (often, tone is not even marked in their transcriptions). However, some general tendencies are possible to discern from the literature. These will briefly be reviewed here, and referred back to when discussing the hypotheses for the present study in chapter 6.

Most loanwords are nouns, and this is the only word class that will be discussed in this section. In nouns, tone assignment is determined by e.g. gender and declension (see section 4.5.2). Judging by the English loanwords in Orwin (1996), most nouns seem to become masculine in Somali, and most masculine nouns belong to declension 1. This means that they get a penultimate H: kóob-ka ’cup-M.DEF’, búug-ga ’book-M.DEF’ and baasabóor-ka ’passport-M.DEF’. The choice of allomorph of the definite article is predictable from the final segment of the word (as described in 4.2.2). There are a few feminine D1 loanwords as well, including all the days of the week except Friday. These are borrowed from Arabic.

Nouns that end in -e, -o or -a in the source language may be assigned to D2. Recall from section 4.5.2 that D2 nouns are either masculine and end in -e, or feminine and end in -o.
There are no native Somali nouns that end in -a (Saeed 1999 p. 29), but both -e and -o assimilate to the vowel of any added suffix, including the definite article, as in the native Somali nouns xeró - xerá-da ’stable-F.DEF’ and furé - furá-ha ’key-M.DEF’.

An example of a loanword ending in -e is doolshé - doolshá-ha < dolce ’cake’ (Italian) (Mioni 1988). An example of a loanword ending in -o is salootó - salootá-da < salotto ’living room’ (Italian) (Mioni 1988). Loanwords ending in -a in the source language include baastó - baastá-da < pasta (Italian) (Lampitelli and Le Gac 2016), which becomes feminine, and fiísé - fiísá-ha < visa, which becomes masculine (English) (Orwin 1996).

There are also a few loanwords that belong to the exceptional group of singular nouns in D3. Recall from section 4.5.2 that these nouns have a final H even though they are masculine (their tonal behavior differs in other ways as well, but the details won’t be repeated here). Native Somali nouns belonging to this declension include jiír-ka ’rat-M.DEF’, rati-ga ’male.camel-M.DEF’ and dhagáx-a ’stone-M.DEF’. Loanwords include turjubaán-ka ’interpreter-M.DEF’ from Arabic, dhakhtár-ka ’doctor-M.DEF’ from English and gaadhí-ga ’car-M.DEF’ from Urdu (Andrzejewski 1964). These words have nothing in common in terms of e.g. segmental phonology or number of syllables, and it is not possible to predict which nouns fall into this class.

Based on these observations, it seems to be the case that tone is assigned to loanwords based on the native Somali rules of morphological tone assignment. In most cases, tone assignment is predictable, except for the exceptional singular nouns of D3.

4.8 Chapter summary

In this chapter, the phonology of Somali was introduced. The topics included here have been limited to the ones that will be relevant when describing the results in chapter 8. A special emphasis was given to tone. In the next chapter, we will have a look the phonology of Norwegian, and we will then be able to compare the prosodic systems of these two languages.
5 The phonology of Norwegian

Unlike Somali, there are book-length reference works available on the phonology of Norwegian. This chapter is for the most part based on Kristoffersen (2000). The Oslo dialect is part of the dialect group referred to as Urban East Norwegian (UEN) by Kristoffersen. This dialect is the one described in this thesis. The transcription conventions used here will be described in section 5.1, before a brief discussion of the segmental phonology of Norwegian in section 5.2. Syllable structure and syllable weight will be described in section 5.3, and a note on orthographic conventions is provided in section 5.4. Stress is described in section 5.5, and tone in section 5.6. The main properties of the prosodic system in Norwegian are summarized in 5.7.

5.1 Transcription conventions

In this thesis, Kristoffersen’s (2000) conventions are used for transcribing Norwegian. Different conventions are used for Somali (see chapter 4), and for the Norwegian loanwords as spoken by Somali speakers (see chapter 7). Kristoffersen describes his conventions as broad IPA. Vowel quantity is marked with the conventional colon, as in [ʰɑːt̪ɾ̩] hater ’hates’ versus [ʰɑt̪r̩] hatter ’hats’. Consonant quantity is not marked, because it is predictable from vowel quantity (see section 5.5).

The transcription conventions used here deviate from Kristoffersen’s in that syllable boundaries are left unmarked. The reason for this is that criteria with which to identify the boundaries between syllables are hard to come by (see Kristoffersen 2000 p. 122ff for a discussion). This information is not relevant for the present purposes, so it is left out. This also means that the ambisyllabicity of certain consonants is unmarked. For example, Kristoffersen (ibid. p. 11) transcribes veggen ’the wall’ as [ɐ̝ɡ.ɡn̩], where the dot marks the syllable boundary and shows that the /ɡ/ is ambisyllabic. Here, it is transcribed as [vɡn̩].

Because the tonal contrast in Norwegian surfaces on syllables with primary stress, stress and tone are marked by a single symbol. This is either the superscript 1 or the superscript 2, and the symbol immediately precedes the syllable with primary stress. The choice between 1 and 2 is determined by the two tonal melodies (“accent 1” and ”accent 2”, or L and HL, respectively, see section 5.6). Examples are [ˈløːvɛt̪] løvet ’the leaf’ and [ˈløːvɛ] løve ’lion’. Secondary stress is marked with the conventional symbol [ˌ] as in [ˈløːnəˌkɑsɑ] Lånekassa (proper noun).

5.2 Segment inventory

The segmental phonology of Norwegian will be of less importance than prosody when describing the results in chapter 8, and is therefore only briefly discussed here. The Norwegian (UEN) consonant inventory as described by Kristoffersen (2000) is illustrated in table (5.1).
Note that for some speakers, [ç] and [ʂ] has merged to [ʂ] (ibid. p. 23). Some speakers lack the retroflex flap [ɾ], which may alternate with [l], [ɭ] and [ɾ] (ibid. p. 24).

<table>
<thead>
<tr>
<th>Segment</th>
<th>Bilabial/labiodental</th>
<th>Dental/alveolar</th>
<th>Retroflex</th>
<th>Palatal</th>
<th>Velar</th>
<th>Laryngeal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosive</td>
<td>p b</td>
<td>t d</td>
<td>t d</td>
<td>k g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td>n</td>
<td>η</td>
<td>η</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>f s</td>
<td>ʂ ç</td>
<td>h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquid</td>
<td>r l</td>
<td>r, l</td>
<td>j</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximant</td>
<td>v, w</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.1: Norwegian consonants

There are nine vowels in Norwegian, and they can be either long or short in stressed syllables (Kristoffersen 2000 p. 13). All vowels are listed in table 5.2. The long vowels are placed on a cardinal vowel chart in figure 5.1. By Kristoffersen’s (ibid p. 11) account, vowel quantity leads to a difference in vowel quality in the mid vowels only: The short mid vowels are thus transcribed [ɛ, œ, ɔ] and the long [ɛː, øː, oː]. Schwa only occurs in unstressed syllables, as an allophone of /e/. Vowels in unstressed syllables are always short (Kristoffersen 2000 p. 19).

| Long vowels | iː yː uː uː eː øː oː (æː) aː |
| Short vowels| i y u u e/ə æ/œ æ/ɔ (æ) a |

Table 5.2: Norwegian vowels

![Figure 5.1: Long vowels in Norwegian](image)

Norwegian also has the diphthongs (or sequences of a short vowel and a consonantal glide) listed in (44) (Kristoffersen 2000 p. 19).

(44) **Diphthongs:**
- Common: [æj, œj, æw]
- Marginal: [ɔj, uj, aj]

### 5.3 Syllable structure and syllable weight

In chapter 2, the Prosodic Hierarchy was introduced. This can be used to formalize how segments are organized into syllables, and how syllables in turn are organized into higher level
constituents such as feet, words and phrases. Syllables can be analyzed into sub-constituents, as illustrated in (45) (from Kristoffersen 2000 p. 115) with the string [slaŋk] 'slim'.

Syllable weight can be represented with moraic structure, such that a heavy syllable consists of two moras, and a light syllable consists of one (see section 2.2.2). In chapter 4, we saw that moras attach to vowels in Somali, and that any coda consonant is irrelevant for syllable weight. In Norwegian, a syllable is heavy if its rhyme consists minimally of either a long vowel, or a short vowel plus at least one consonant. This is illustrated by Kristoffersen (2000 p. 117) as shown in (46). In both (46a) and (46b), the segmental make-up of the syllable is [hɑt]. A long vowel is represented here in terms of moraic structure rather than with [:].

In this approach, onset consonants are assumed to be directly linked to the syllable node. If the vowel is long, it is linked to both moras in a heavy syllable (46a, ['hɑːt'], 'hate'). In this case, the coda consonant does not contribute to syllable weight. If the vowel is short, it is linked to the first mora, and the coda consonant to the second mora (46b, ['hɑt'], 'hat').

Examples of bisyllabic words with initial stress are illustrated in (46c-46d) (Kristoffersen 2000 p. 117). In (46c, ['hɑːtə'] 'to hate'), the heavy (bimoraic) syllable has a long vowel, and the following [t] is linked to the light (monomoraic) syllable (in this approach, it is assumed that syllables have onsets wherever possible). In (46d, ['hɑtn'] 'the hat'), the heavy syllable has a short vowel, i.e. a vowel linked to the first mora only. The following [t] is geminated and ambisyllabic. This is illustrated by linking it to both the second mora in the heavy syllable, and to the light syllable.

5.4 Orthography

As discussed in chapter 3, it has been suggested that orthography may influence how loanwords are phonologically adapted. Orthographic representations for the Norwegian loanwords will be included in the examples in chapter 8 and the word lists in appendix B. Norwegian has two written norms, and the norm known as Bokmål is chosen here, because this is the one used.
by the majority of the population and the one that Somali speakers in Oslo most likely encounter most frequently. The Norwegian alphabet is presented in table 5.3 (see Kristoffersen 2000 ch. 12 for the relationship between segmental phonology and orthography). There are few orthographic cues to prosodic structure in Norwegian. Tone and stress are generally not marked orthographically. One exception is words with stress on a final /e/, which is marked with an acute accent, as in kafé ‘café’ and komité ‘committee’. Vowel quantity can quite often be inferred from orthography: when there are two consonants, the preceding vowel usually is short, as in bakk [ˈba:k] ‘tray’ and bakke [ˈba:kə] ‘hillside’. These can be compared to bak [ˈba:k] ‘behind’ and bake [ˈba:kə] ‘bake’ which have long vowels. There are, however, exceptions to this rule.

5.5 Stress

In this section, the Norwegian stress system is introduced. In section 5.5.1, the role of syllable weight is discussed, and in 5.5.2, the different stress levels are described.

5.5.1 Syllable weight and stress assignment

In Norwegian, all stressed syllables are heavy (Kristoffersen 2000 p. 116), but the way this criterion is implemented is not predictable. The choice between a long vowel, or a short vowel plus a moraic coda consonant, needs to be part of the lexical representation for a given root. The approach taken by e.g. Kristoffersen (2000), is that long vowels are lexically specified, and that gemination is predictable for stressed syllables with short vowels, and derived “by default” (p. 206). Therefore, vowel quantity is transcribed (V vs. Vː), but consonant quantity is not distinguished in the transcription.

Simplex, native Norwegian words (non-names) have, with a few exceptions, one or two syllables, and stress always falls on the first (Kristoffersen 2000). Examples are [ˈtu:k] ’roof’ and [ˈka:ka] ’cake’ (ibid. p. 148). In loanwords with more than two syllables, stress is assigned to one of three syllables in a right edge window of the word (see Kristoffersen 2000 p. 149ff for details). Examples are [ˈa:nanas], ’pineapple’, [ˈaːpɛndiks] ’appendix’ and [ɔːrkiˈdeː] ’orchid’.

5.5.2 Stress levels

Kristoffersen (2000 p. 140-141) describes three levels of stress: primary stress, strong secondary stress and weak secondary stress. In compound words, stress is retained on each part
of the compound. However, only the first part of the compound has a syllable with primary stress. The subsequent parts of the compound have their stress demoted to (strong) secondary stress. For example, [tu'mɑːt] 'tomato’ and [³bœnɾ] 'beans’ combine to form the compound [tu'mɑːtˌbœnɾ] 'tomato beans’. The tonal contrast is only present on syllables with primary stress (hence the absence of any superscript ¹ or ², indicating accent 1 or 2, before the syllable with secondary stress). This compound has a homonym [tu'mɑːtˌbœnɾ] 'tomato farmers’, with the corresponding simplex words [tu'mɑːt] 'tomato’ and [³bœnɾ] 'farmers’. The latter forms a minimal pair with [³bœnɾ] 'beans’ when it has primary stress, but the distinction is lost when primary stress is demoted to secondary stress (see section 5.6 for more on the tonal contrast).

Both syllables with primary and strong secondary stress retain the vowel quantity contrast. For example, [nɑ¹tuːɾ] 'nature’ and [¹fɑːɡ] 'subject’ form the compound [nɑ¹tuːɾˌfɑːɡ] 'natural sciences'. Here, both of the stressed syllables have a long vowel. Kristoffersen (2000) adds a third stress level, namely that of weak secondary stress, which is is found on the initial syllable of words without initial primary stress (which are all loanwords). Syllables with weak secondary stress do not have a tonal contrast or a vowel quantity contrast. The phonetic correlates of weak secondary stress are very subtle. The details are not relevant for the present purposes and will not be explained further here (see Kristoffersen (2000) p. 162ff).

As discussed in section 2.2.2, even primary stress can have rather subtle phonetic correlates in some languages, and is sometimes best described as a location referenced by phonological rules. This seems to apply to Norwegian: in Kristoffersen’s (2000) words, ”Syllables carrying primary stress [...] are the only possible locus of two phonological criteria in conjunction, weight and tonal accent” (p. 141). In Norwegian, a syllable with (strong) secondary stress is mainly a location for a vowel quantity contrast. A syllable with primary stress is a location for a vowel quantity contrast and a tonal contrast.

5.6 Tone

As mentioned in section 2.3, the tonal contrast in Norwegian (UEN) can be described as L versus HL. In the specialized Scandinavian literature (e.g. Kristoffersen 2000), they have been referred to as accent 1 and accent 2, respectively. These rather anonymous labels reflect the fact that the accents may be realized in different ways in different dialects: accent 1 is an L in East Norwegian, but typically an H in West Norwegian (Kristoffersen 2000 p. 236; see also Hognestad 2012 for more on tone in other dialects). Referring to them as L and H would obscure their common origin. However, when comparing a particular dialect of Norwegian to another language, it makes more sense to describe the properties of accent 1 and accent 2 in that dialect directly, and they will therefore be referred to as L and HL here. Because Hyman’s (2006) approach to word-prosody is followed here, the notion accent is discarded, and instead, tone and stress are defined as discussed in section 2.3. For the sake of continuity with previous literature, accent 1 and accent 2 will still sometimes be used here to refer to the tones.
5.6.1 The accent phrase

The tonal contrast in Norwegian surfaces on syllables with primary stress. Primary stress marks the left edge of what Kristoffersen (2000 p. 275) calls the Accent Phrase. He describes this as a postlexical prosodic constituent that lasts from any syllable with primary stress up until the next prestress syllable, or the final syllable of the utterance. The right edge of the Accent Phrase is marked by a high boundary tone (H%). For a single word uttered in isolation, the final syllable will be the right edge of the accent phrase (see section 5.6.3 for a graphic representation).

If the next word does not have initial stress, this H% will be realized on the next prestress syllable inside the following word. In other words, the accent phrase cuts across word boundaries. In [årsoppgjør på kontoret ’annual settlements in the office’ (Kristoffersen 2000 p. 240), the first accent phrase (marked by brackets) starts at the initial syllable and lasts up until and including the first syllable of kontoret, thus including på. The second accent phrase consists of the two final syllables.

5.6.2 The tonal melodies

So far, accent 1 has been described as L, and accent 2 as HL. Another approach would be to say that the H% described in the previous paragraph are part of the tonal melodies, and therefore that the contrast actually is between LH and HLH. Kristoffersen (2000) argues that "because the final H can be linked to a syntactic constituent other than the one that carries the initial part of the melody, the full melody cannot be accounted for within the lexicon” (p. 240). Because the H% is the same in both melodies, it is predictable, and does not need to be lexically specified. However, at least one of the two melodies L and HL needs to be.

The function of the final H is to mark the boundary of the accent phrase, and therefore, it can be described as intonation (i.e. postlexical use of pitch). Moreover, it can be altered by postlexical factors: focus marking causes it to be realized with even higher pitch (it can in that case be symbolized with Hfoc%). Intonation in Norwegian will not be discussed further here (see Kristoffersen 2000 ch. 10 and Fretheim 2017). For the present purposes, the important thing to note is that the H% is present in the Norwegian speech that Somali speakers have heard, and they may have analyzed it as a lexical tone. On the other hand, its location varies in Norwegian, and it is not used to distinguish lexemes, so this is not necessarily the case.

In Kristoffersen’s (2000) analysis, the L/HL contrast is described as privative: the H in the HL melody is the only lexical tone, and the L in both melodies is a "prominence L" whose only function is to realize stress. Both L and HL are referred to as tones here, because scholars disagree on whether or not only one them is lexically specified, and in that case, which one (cf. Kristoffersen 2000, 2006; Wetterlin 2010).

Contrasting with the privativity hypothesis is the timing hypothesis. This says that both melodies in fact are HL, it is just the timing that differs: In accent 1, the H is linked to the pre-
stress syllable, the L to the primary stressed syllable (this may be symbolized as HL*). In accent
2, the H is linked to the stressed syllable (this may be symbolized as H*L). The $F_0$ trajec-
tory of the two melodies are in fact similar except in timing. This issue has few consequences
for this study: there are very few contexts where the hypothesis actually can be tested, because
of the H% that shows up on the prestress syllable to mark the right edge of the preceding ac-
cent phrase. The question is mainly a theoretical one and will not be discussed further here.

5.6.3 Tone-bearing unit and phonetic realization

As described in (2.3.3), tone in Norwegian is dependent on stress in the sense that the tonal
melodies are realized on syllables with primary stress. Monosyllabic words in UEN always
have the L of accent 1, e.g. ['bœn] bönn 'prayer'. The HL of accent 2 needs a trochee, i.e. a
syllable with primary stress followed by an unstressed syllable, to be realized. In bisyllabic
words with initial stress, we find contrasts like ['bœnɾ] bonder 'farmers' and ['bœnɾ] bonner
'beans'.

Because the HL of accent 2 needs a syllabic trochee, it is possible that the TBU in Nor-
wegian is the syllable. In this case, the L of accent 1 associates to the syllable with primary
stress. The H in the HL melody of accent 2 associates to the syllable with primary stress, and
the L to the following unstressed syllable. This is the analysis adopted by Kristoffersen (2000
p. 245). It is illustrated in (47-48). Here, the H% is marked on the final syllable, but as de-
scribed in section, the location of the H% varies with prosodic context.

The analysis is based on phonetic evidence, i.e. by locating peaks and valleys in the $F_0$
trajectory. In figures 5.2-5.3, the two compound words ['manalì nu:]jumà] mannalinoileumen
'manna + linoleum' and ['manalì nu:]jumà] mannelinoileumen 'the linoleum for men' are il-
lustrated. The first thing to notice is that the valley of the L of accent 1 (figure 5.2) is reached
rather late during the initial syllable. Second, the valley in the HL melody of accent 2 (5.3) is
reached in the beginning of the poststress syllable. Both melodies are characterized by a fall
towards low pitch, but the minimum is reached at different time points.

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\(16\) This is a reproduction of pitch tracks from Kristoffersen (2000 p. 249). The semantically odd words were
chosen to illustrate the $F_0$ trajectory with only sonorant syllables, thus avoiding interruptions in the pitch tracks.
These figures (and figures 5.4 and 5.5) illustrate my own (UEN, Oslo) pronunciation of the words. The schwa
before the final [n] is transcribed in these examples, but in the rest of the thesis, it is not, following Kristof-
ersen’s transcription conventions and his analysis of these schwas as vocalic transitions which are purely pho-
netic in nature (Kristoffersen 2000 p. 12). The words were uttered in the carrier sentence "Jeg sa X, 'a, vet du"
("I said X, you see"). The recordings were made with a Røde NT5 microphone in WAV, 32 bit float, 44.1 KHz.
Third, the syllables between the primary stress and the Hfoc% all have low pitch (including the syllable with secondary stress). Kristoffersen (2000 p. 248) describes this as spreading of both the L of accent 1 and the L of accent 2, which can be illustrated autosegmentally as in (49).

(49) $L$ spreading

Figures 5.2-5.3 illustrate the phonetic realization of the two tones in these particular words, but the realization is likely to vary with the context, e.g. with voicing in the segments. There
are unfortunately few phonetic studies of tone in various contexts in East Norwegian (though see Dommelen and Nilsen 2003). Any variation is of course part of the speech encountered by L2 learners of Norwegian, such as the participants in the present study. It is not necessarily the case that they perceive this variation in terms of the two categories that are relevant in Norwegian (accent 1 and accent 2).

Two more examples are illustrated here in figures 5.4 and 5.5, to illustrate that vowel quantity does not matter for the realization of the fall from H to L in the HL melody in accent 2 (at least not when the intervocalic consonant is sonorant). Figure 5.4 shows the pitch track for [²ʰɑːlɾ̩] haler 'tails', with a long [ɑː] and a short [l]. Figure 5.5 shows the pitch track for [³ʰɑləɾ] haller 'halls', with a short [ɑ] and a long [l]. Judging from these illustrations, the realization of the HL melody is the same (note that this has not been measured quantitatively here or tested statistically).

As in Somali, tone assignment in Norwegian depends on morphology. For example, the words hatt and hall have accent 1 (L) in the definite singular ([¹ʰɑtn̩] [¹ʰɑln̩]), and accent 2 in the indefinite plural ([²ʰɑtɾ̩] [²ʰɑlɾ̩]). The details are fairly complex (see Kristoffersen 2000 and Wetterlin 2010) and will not be relevant here, so these issues won’t be discussed further.

5.7 Summary of important properties of Norwegian prosody

As we have seen in this chapter, the TBU in Norwegian has been argued to be the syllable. There are two contrasting tonal melodies, L vs. HL. Tonal density can be described as low, because there is only one TBU per word. Norwegian also has a stress system, and tone is dependent on stress in that the tonal contrast only surfaces on syllables with primary stress. Stress is syntagmatic, but tone is paradigmatic (i.e. the question is which tone surfaces on a given TBU?). Such syllables are moreover always heavy, though this criterion might be implemented either with a long vowel, or a short vowel plus a moraic coda consonant. Stress can be described as a location for a tone contrast and a vowel quantity contrast, rather than as having independent phonetic correlates.

5.8 Chapter summary

This chapter has given a brief introduction to the phonology of Urban East Norwegian, including segmental inventory, syllable structure, syllable weight, stress and tone. Some similarities and differences between Norwegian and Somali were pointed out on the way. In the next chapter, some hypotheses for the present study will be set up based on what we have seen in chapters 3, 4 and 5.
Figure 5.4: Pitch track of *haler*

Figure 5.5: Pitch track of *haller*
6 Research questions and hypotheses

The main goal of this thesis is to describe how Norwegian loanwords are tonally adapted when borrowed by native Somali speakers. Previous research on loanword prosody (discussed in chapter 3) suggests that input prosody is less likely to be preserved if the recipient language has strong restrictions on its distribution of tone or stress. On the other hand, it has also been suggested that input prosody is more likely to be preserved in situations where the degree of language contact is more intimate, and the borrowers have a higher degree of bilingualism. Because both of these factors apply to the speakers in this study (see sections 1.3 and 4.5), their loanword adaptations work as a test case for the two competing predictions. The main research questions are listed in (50).

(50) Research questions

How are Norwegian words tonally adapted when borrowed by native Somali speakers?

a. If tone assignment is in accordance with the native Somali patterns, which patterns are productive?

b. If Norwegian tone is preserved in loanwords, how are they interpreted in the prosodic system of Somali?

The similarities and differences between the prosodic systems in the two languages will be summarized in section 6.1. The first hypothesis, i.e. that the type of prosodic system in the recipient language restricts loanword adaptations, will be discussed in section 6.2. Explicit predictions for possible Somali tone assignment to Norwegian loanwords will be discussed in section 6.2.1, based on the prosodic properties of Somali (see chapter 4). The second hypothesis, i.e. that the borrowers’ knowledge of the source language plays a role, will be discussed in section 6.3. Explicit predictions for how prosody in Norwegian is preserved, if at all, will be discussed in section 6.3.1.

6.1 Comparison of prosodic properties in Somali and Norwegian

The main properties of the word-prosodic systems in Somali and Norwegian can be summarized as follows (see chapters 4 and 5). The tonal contrast in Somali has been analyzed as H vs. L (alternatively, H vs. Ø). The tonal contrast in Norwegian has been analyzed as L vs. HL. The TBU is assumed to be the mora in Somali, and the syllable in Norwegian. Tonal density is low in both languages: In Somali, there is usually maximum one H per word. Its distribution is governed by grammatical features, and it is usually restricted to the penultimate or final mora of a word. There are also words without any H. In Norwegian, the L/HL contrast surfaces on syllables with primary stress only, and there is one and only one syllable with primary stress per word, usually the initial one (except in loanwords). Somali does not have stress. Both languages have a vowel quantity contrast. In Norwegian, this is restricted
to stressed syllables, but in Somali, there are no such restrictions. Coda consonants may be moraic in Norwegian, but not in Somali. Because only vowels are moraic in Somali, and the TBU is the mora, a long vowel (i.e. two moras) are needed in order to realize a contour tone (i.e. two tones, one for each mora). In Norwegian, vowel quantity in the syllable with primary stress is irrelevant for tone assignment: Most of the fall from an H in the stressed syllable to the L in the poststress syllable is realized during the stressed syllable, regardless of vowel quantity.

6.2 The properties of the prosodic system in Somali excludes the possibility of input preservation

We saw in section 3.3.2 that input prosody has been argued to be less likely to be preserved if the recipient language has strong restrictions on its distribution of tone or stress. This has been formulated as follows:

Stress languages [...] have stricter restrictions on the location of prominence and it is often impossible to faithfully preserve input language prominence in the original position. (Kang 2010 p. 2295)

It was argued in section 3.3.2 that this prediction should not be based on the label that has been placed on a language (tone, stress or accent), but rather, on the properties of the prosodic system involved. In native Norwegian words, primary stress (and thus tone) falls on the initial syllable. Because the distribution of the Somali H usually is restricted to the penultimate or final mora of word, preservation of input tone or stress may be impossible if its location violates this pattern. Moreover, the distribution of the Somali H is determined by grammatical features. Preserving input prominence in the “wrong” position of a word could thus render a sentence ungrammatical.

As mentioned in the introduction to this chapter, the main research question is whether Norwegian tone or stress will be preserved when borrowed into Somali, or whether tone will be assigned based on the native Somali patterns. If the latter is the case, the next research question is how exactly this is achieved, i.e. which patterns are productive. As we will see in chapter 8, most of the words in the present study are singular nouns, and the discussion here will be limited to these.

6.2.1 Predictions for how tone may be assigned by the native Somali patterns

We saw in section 4.5.2 that tone assignment to native Somali nouns depends on gender, declension, syntactic function, focus marking and position in the sentence. If the same patterns are used to assign tone to Norwegian loanwords, the location (and presence) of the H should vary according to these factors, and depend on the overall context of a given token of a word.
We saw in section 4.7 that most nouns borrowed from other languages are masculine in Somali, and belong to declension 1. This is therefore expected to be the most productive pattern, and the category that most Norwegian nouns will fall into. There are, however, also borrowed nouns that are feminine and belong to D1, and some exceptional nouns that are masculine and belong to D3. These patterns may therefore also be partially productive. Words are expected to become masculine nouns of D2 if they end in /e/ in Norwegian, and feminine nouns of D2 if they end in /o/. There are no native Somali nouns ending in /a/ (Saeed 1999 p. 29), and nouns ending in a borrowed from other languages have been treated as D2 nouns in Somali (either masculine or feminine, see section 4.7). The tonal behavior of the different declensions were described in section 4.5.2 and will not be repeated here.

6.3 The borrowers’ degree of bilingualism opens up the possibility of input preservation

We saw in section 3.3.2 that the language contact situation and the type of bilingualism involved may affect the outcome of whether prosodic features in the input may be preserved or ignored in loanwords. Because the Somali speakers in this study live in a country where Norwegian is the majority language, and use Norwegian every day, the probability of input preservation can be argued to be high. The second hypothesis is thus that Norwegian tone or stress may be preserved in loanwords, even when its location violates the native Somali patterns. This predictions conflicts with the one discussed in 6.2. If it turns out that prosodic properties of the input is preserved, the next research questions are what exactly is preserved, and how.

6.3.1 Predictions for how Norwegian prosodic properties may be preserved

If prosodic properties of the Norwegian input form are preserved in loanwords, the question is how these features are interpreted by the prosodic system in Somali, which, as we saw (6.1), has very different properties. In the present section, some possibilities for interpretations of the tonal contrast will be discussed, followed by a paragraph on the role of vowel quantity. The section concludes with a note on the Norwegian H%.

The tonal contrast  In section 5.6, the Norwegian tonal contrast was described as L vs. HL. If tone in Norwegian is preserved in words when borrowed into Somali, then the question is how these tones are interpreted in the Somali prosodic system. We saw in section 4.5 that the tonal contrast in Somali can be described as H vs. L. It can, however, also be described as H vs. Ø, because the whole system can be described by just referring to the distribution of the H. These issues are primarily of a theoretical nature, but they may be relevant for how Norwegian tone is preserved by the speakers. If it is the case that the H is the only tone that is ”active” in Somali, in the sense that it is the only one referenced by (morpho-)phonological rules, then how can the Norwegian L be preserved?
One possibility is that the phonetic pitch contour in Norwegian words is preserved, and thus that the Norwegian L of accent 1 is nativized as a Somali L. However, the Norwegian L associates to a syllable that has primary stress in Norwegian, and may thus be more perceptually prominent to Somali speakers, in the general sense discussed in section 2.4, even if Somali does not have stress. It is therefore possible that this type of prominence is preserved instead, and interpreted into the Somali system, where the H arguably is the perceptually prominent tone. There are thus two possibilities for the Norwegian L: it may either become a Somali H or a Somali L (which may be described as Ø), in which case the word will be realized as low-toned/toneless.

The two tones in the Norwegian HL melody are in Kristoffersen’s (2000 p. 245) analysis linked to two different syllables: the first to the syllable with primary stress, and the second to the poststress syllable (see section 5.6.3). However, most of the fall from H to L is realized during the syllable with primary stress. Thus there are two main possibilities here: The first is that the HL in Norwegian, linked to two different syllables, becomes an H in Somali, linked to one of the moras in the corresponding first syllable, followed by an L linked to the mora in the second syllable. This is illustrated in (51a), but the moraic representation will be discussed further below. The second possibility is that the Norwegian HL becomes a Somali HL, i.e. two tones linked to the same, bimoraic syllable. This possibility, which would be closer to the phonetic realization of the Norwegian HL (see section 5.6.3), is illustrated in (51b).

The role of vowel quantity and syllable weight  A complicating factor is that while syllables with primary stress in Norwegian are always heavy (bimoraic), this weight criterion may be implemented in different ways (see section 2.2.2 on syllable weight in general, and 5.5.1 on syllable weight in Norwegian). First, a heavy syllable may consist of a short vowel and a moraic coda consonant, i.e. CVC. In Somali, however, coda consonants cannot be moraic, which means that CVC syllables are light (see section 4.3). Because they are light, i.e. monomoraic, and the TBU in Somali is the mora, such syllables may only carry one tone. The option in (51b) is thus less plausible for CVC syllables. The option in (51a) is more likely in this case, and may be illustrated as in (52a), with a bisyllabic CVCV template. It is also possible that a short vowel is lengthened in order to realize the contour on the first syllable, or that Norwegian loanwords may behave differently, and have monomoraic syllables with two tones.
6.3 The borrowers’ degree of bilingualism opens up the possibility of input preservation

The weight criterion in Norwegian may also be implemented with a long vowel, CVː. Syllables with long vowels are bimoraic in Somali as well, so in this case, the option in (51b) is plausible. Such a result may be illustrated as in (52b), once again with a bisyllabic CVCV template. In (52), only the HL of accent 2 is illustrated. Similar representations can be used to make predictions for how the L of accent 1 may be preserved, but they will depend on whether the L is expected to be realized as an H or L (as discussed above). There are thus two possibilities for the accent 1 equivalent of (52a), one where the first syllable has an L, and one where it has an H. There are four different possibilities for the accent 1 equivalent of (52b): The first syllable may have two Ls, an HL, LH, or possibly a long H. This question will be left open, and for reasons of space, the different possibilities will not be illustrated here.

**The Norwegian H%** Norwegian also has a high boundary tone (H%), which marks the right edge of the so-called *accent phrase*. We saw in section 5.6.1 that this right edge is either the syllable immediately preceding the next primary stressed syllable, or the utterance-final syllable if there is no subsequent primary stress. This means that when a word is uttered in isolation, the H% is realized on the final syllable of that word. Therefore, it is possible that it is preserved as a Somali H in words borrowed into Somali. On the other hand, the location of the Norwegian H% varies with prosodic context, and the accent phrase cuts across word boundaries (see section 5.6.1 for details). Moreover, the H% is not used to distinguish lexemes, as the L and HL tones are. It is therefore possible that the H% is abstracted away by Somalis learning Norwegian, at least for high-frequency words which they have encountered in various prosodic contexts. The H% is not necessarily part of the lexical representation of words in their Norwegian L2 lexicon, and hence, not present in the input to the adaptation process. This is, of course, an empirical question that could be addressed in future studies of Somali speakers’ Norwegian as a second language. Note that because an H may be assigned to the final mora of a word by native Somali rules, the two possibilities (preservation of H% vs. assignment of Somali H) will give the same result. A final H may therefore be ambiguous, or possibly a way of abiding by the Somali rules while simultaneously preserving the Norwegian H%.

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17 Recall from section 4.5 that the LH contour in Somali may be simplified to a long H. The two latter possibilities are therefore variants of the same tonal pattern.
6.4 Chapter summary

The main research questions for the present study were presented in this chapter. Two competing hypotheses were discussed: The first said that Norwegian tone is expected to be ignored when words are borrowed into Somali, if its location violates the restrictions on tone in Somali. In that case, tone is instead expected to be assigned by the native Somali rules. The second hypothesis said that because of the nature of the language contact situation, the likelihood of preservation of Norwegian tone is high, even in cases where it violates the restrictions posed by the Somali system. Predictions for how Norwegian tone can be preserved were also discussed. Topics included how the Norwegian L may be interpreted by a system which possibly has an H vs. Ø contrast, how the HL fall is realized (i.e. over two syllables in Somali, or over one bimoraic syllable), how the different types of syllable weight in the two languages may affect the outcome, and whether or not the Norwegian H% may be expected to be preserved. In the next chapter, the methodology used to explore these issues will be described.
7 Methodology and analysis

In order to answer the questions asked in chapter 6, fieldwork was undertaken in Oslo. The material consists of spontaneous speech data and some elicited forms. The participants in the study are introduced in section 7.1, and the procedure is described in 7.2. In section 7.3, the dataset that was obtained is described, including criteria for identifying Norwegian loanwords. The procedure for analyzing tone patterns is described in 7.4. The loanwords that were identified were compared to an input form, and how to describe these is discussed in section 7.5. Finally, the loanwords were classified based on the tonal adaptation pattern that they showed. Classification is described in section 7.6.

7.1 Participants

Nine native speakers of Somali were recruited, age 30-65, five men and four women (see table 7.1 on page 62). They were all late learners of Norwegian who live in Oslo and use both Somali and Norwegian every day. Because the sample is small, one should take caution when generalizing the results to the population. No inferential statistics is done, and the study is primarily of an exploratory nature. The process of recruiting participants is described in section 7.1.1. Their language biographies were collected as discussed in 7.1.2. Ethical considerations are discussed in section 7.1.3.

7.1.1 Getting access to speakers

The participants in this study were recruited through my private Somali teacher, who is referred to here as P01. I first met him in October 2015, when we started our lessons. Anyone who knows the Somali community, also knows that a Somali is never alone. Whenever I visit P01, other people drop by for tea, food, music and chats. This way, I have been introduced to several Somali speakers over the last year and a half. They have all welcomed me into their lives and been very helpful in my process of learning their language. Eight of them participated in this study in addition to P01. The data were collected between November 2016 and January 2017.

P01 was informed about the research questions, and also took part in analyzing the data. He is thus not a "naive" participant, unlike the others. However, his adaptation strategies were also found with other speakers, so the fact that he knew the research questions was judged not to be a problem. The data that he produced were therefore included in the analysis. Note that some constructions lacked in the spontaneous speech data and were instead elicited from him. The analysis of these constructions (nominative case marking and bare D2 nouns in certain contexts) are therefore based on his data alone. This will be pointed out along the way when the results are described in chapter 8.
### 7.1.2 Language biographies

Because there could have been variation between speakers in tonal adaptation strategies, the participants’ language biographies were collected via an interview as background information. Topics included birth place, dialect, age, years of education, age when moving from the Horn of Africa, other countries of residence, other languages learned, and age of arrival in Norway. The following information was collected for all their languages: age of acquisition, years of exposure and type of learning (explicit/implicit). Finally, the participants were asked to rate their proficiency level in the different languages and how often they use them today. During this part of the interview, they were also asked to comment on what kind of situations the different languages were used in. Because participants have the right to remain anonymous, individual language biographies are not published. Gender, approximate age, birth place and years of residence in Norway for each participant are listed in table 7.1. Certain details are left out for P08 and P09 because they didn’t want this information in print.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>Age</th>
<th>Birth place</th>
<th>Years in Norway</th>
</tr>
</thead>
<tbody>
<tr>
<td>P01</td>
<td>M</td>
<td>65</td>
<td>Boorame</td>
<td>30</td>
</tr>
<tr>
<td>P02</td>
<td>M</td>
<td>50</td>
<td>Ethiopia</td>
<td>30</td>
</tr>
<tr>
<td>P03</td>
<td>F</td>
<td>35</td>
<td>Ethiopia</td>
<td>10</td>
</tr>
<tr>
<td>P04</td>
<td>M</td>
<td>35</td>
<td>Ethiopia</td>
<td>10</td>
</tr>
<tr>
<td>P05</td>
<td>F</td>
<td>30</td>
<td>Mogadishu</td>
<td>5</td>
</tr>
<tr>
<td>P06</td>
<td>M</td>
<td>65</td>
<td>Hargeisa</td>
<td>35</td>
</tr>
<tr>
<td>P07</td>
<td>M</td>
<td>50</td>
<td>Mogadishu</td>
<td>25</td>
</tr>
<tr>
<td>P08</td>
<td>F</td>
<td>40</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>P09</td>
<td>F</td>
<td>40</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 7.1: Participants

In addition to Somali and Norwegian, all of the participants had some knowledge of English and Arabic, though proficiency levels varied from rudimentary to university level. Most participants also knew a fifth language, some even seven. Additional languages included German, French, Italian, Amharic and Mandarin. The type of learning varied for the different languages. Most importantly, they had all taken Norwegian classes in Norway, though levels ranged from introductory courses to university level studies.

All of the participants arrived in Norway after the age of 18, thus ensuring that incomplete acquisition (Montrul 2008) of Somali was avoided. Their time spent in Norway ranged from five to 35 years. Thus there is a risk of L1 attrition (Seliger and Vago 1991) for some participants, but this is minimized by the fact that they all still use Somali every day.

### 7.1.3 Ethical Considerations

The study was approved by The Data Protection Official for Research, Norwegian Centre for Research Data. The participants signed a consent form which was written in Norwegian, but
also translated to Somali. They were informed about the procedure they were agreeing to, that participation was voluntary and that they could withdraw their consent at any time without providing a reason. Care was taken to ensure that the participants will remain anonymous. Any names that were used during the conversations were removed from the data, and the details of the language biographies are not published. The consent form is enclosed in appendix A.

7.2 Procedure

In this section the situation of recording is described (7.2.1), followed by a discussion of advantages and disadvantages with studying spontaneous speech (7.2.2) and elicitation (7.2.3).

7.2.1 Making recordings

The main data come from conversations between pairs of speakers, recorded with a Zoom Q3 (WAV, 24 bits, 44.1 KHz) in private homes. This naturalistic setting was chosen to obtain more ecologically valid data, i.e. data that illustrate how speakers borrow Norwegian words in real-life situations. As pointed out by Labov (1972), there is an inherent observer’s paradox in studies like this: "the aim of linguistic research in the community must be to find out how people talk when they are not being systematically observed; yet we can only obtain this data by systematic observation” (p. 209).

The fact that I was present when the recordings were made, may have influenced the data even though I did not take part in the conversations. But this way, I know what happened when the data was obtained, which made it easier to understand and interpret the conversations later. The participants were instructed to speak Somali as they normally do, and not to pay attention to me. This was done to avoid foreigner directed speech, i.e. the possibility that they would adapt their speech to make it easier for me as an L2 speaker to understand them.

In order to increase the probability of borrowing, the participants were asked to talk about topics relating to Norway. For example, they told stories from when they first arrived here and discussed what it was like to learn Norwegian. They were informed that the content of the conversations were not the object of study, but rather their pronunciation. This way, they could speak freely without being concerned about other people’s opinions of their stories and views.

They were all aware that the main topic of study is the Somali language. In some of the conversations, both of the participants were unaware of the specific research questions of the study, i.e. that the focus is on Norwegian loanwords. However, P01 was informed about this. Some of the "naive” participants were paired with him, and he was then able to lead the conversation into even more topics that led to the use of Norwegian words.
7.2.2 Spontaneous speech

The main advantage to studying spontaneous speech, is that one acquires more naturalistic and ecologically valid data. The data collected here may therefore provide a window into the Oslo dialect of Somali as it is actually spoken in everyday situations. The results show what kind of Norwegian words are borrowed, and how these words are adapted online and spontaneously during language production.

The main disadvantage to studying spontaneous speech, is that speakers may interrupt themselves or change plan in the middle of a sentence. These factors can make the data hard to analyze. Moreover, there are certain factors that influence the data quality, e.g. noise from the environment or from people moving around, overlap between speakers, laughing, whispering etc. This inevitably leads to some data loss. Another disadvantage to studying spontaneous speech, is that one does not have any control over the Norwegian words that are used (if any at all), or the context that they appear in. Therefore, some additional data were also collected via elicitation, which is discussed next.

7.2.3 Elicitation

A word list was assembled based on Norwegian words that P01 had overheard other Somali speakers use. This list was used as basis for two elicitation procedures. During the first procedure, two of the participants (P01 and P06) were shown various images and asked to describe what they saw. The images included things that are typical of Oslo, e.g. the Opera house and the Parliament building, and pictures of people illustrating different professions. This procedure allowed for a form of semi-spontaneous speech, while still increasing the probability of online borrowing of Norwegian words.

The second procedure was devised to elicit nominative case marking (see section 4.5.2). Only P01 went through this procedure. In this case, he was not aware of the exact research question. I told him that I wanted examples of positive and negative answers, and not that I was looking for nominative case marking specifically. He was shown various images and was asked whether there was an X in the picture, and instructed to answer in full sentences. The resulting conversation sounded as illustrated in (53-54). The question was asked by me, with Norwegian-accented Somali, ensuring a native Norwegian pronunciation of the items (here dommer 'judge').

If the answer is yes (54a), the subject is focus marked, and nominative case marking is blocked (see section 4.5.2 for details). The noun therefore occurs in its absolute case form. If the answer is no (54b), a negative clause follows, in which case there is no focus marking (see Saeed 1999 p. 193 and Saeed 2004). Without focus marking, the subject is nominative case marked (in this case, the H is deleted).\(^\text{18}\)

\(\text{18I am grateful to Martin Orwin for the idea for this procedure.}\)
Absolute and nominative elicitation procedure

(53) Sawir-ka ma dommer baa ku jir-aa?
picture-M.DEF Q judge FOC in exist-PRS.3SG.M
'Is there a judge in the picture?'

(54) a. Absolute

Haa, dommer baa ku jira sawir-ka.
yes judge FOC in exists picture-M.DEF
'Yes, there is a judge in the picture.'

b. Nominative

Maya, dommer ku ma jir-o sawir-ka.
no judge.NOM in NEG exist-NEG picture-M.DEF
'No, there is no judge in the picture.'

P01 collaborated with me on transcribing the conversations (see section 7.3.3). During this phase, some additional data were collected when clarification was needed, e.g. to collect examples of a word in different contexts.

7.3 The dataset

The speakers were in a bilingual mode during the conversations, with Somali as the base language (see section 3.1.1 on language modes). This was reflected in extensive borrowing and code-switching between several languages, not only Somali and Norwegian. Specific criteria were needed for identifying the Norwegian loanwords that were used. These are discussed in section 7.3.1. The properties of the resulting dataset are summarized in 7.3.2. Annotation and transcription procedures are described in section 7.3.3.

7.3.1 Data selection

In this section, criteria for distinguishing borrowing from code-switching are discussed, followed by paragraphs on how loanwords from other languages and more complex language mixing were treated.

Code-switching vs. borrowing As described in section 3.1.1, speakers may both borrow and code-switch when they are in a bilingual mode. In this study, the main topic is the former, not the latter, and criteria for distinguishing the two phenomena are therefore needed. If a whole phrase (two or more consecutive words) was Norwegian, it was classified as code-switching. An example of this is illustrated in (55).
(55) **Code-switching**

Waxaan soo raac-ay *tog til Asker.*
FOC.1SG VEN take-PST.1SG train to place.name

'I took the train to Asker.'

However, distinguishing single-word code-switches and unassimilated loanwords is not entirely straightforward (see section 3.1.2 for a discussion). One possible criterion is morphological incorporation: If a word occurs in a context where it needs morphological marking in Somali, and there is no such marking, it may be classified as code-switching. The problem is words that occur in a context where morphological marking is not needed. For example, place names are not suffixed with definite articles in Somali. Therefore, this criterion cannot be used for classifying *Hóonefos* (place name) in (56).

(56) **Morphological incorporation**

Intaan *Hóonefos* la teg-in waa meel... *shii-ga* lagu
until.NEG place.name INDF.SBJ go-NEG DECL place ski-M.DEF INDF.SBJ.by
ciyaar-o.
play-SUBORD

'Before you reach Hønefoss there is a place where people go skiing.'

The criterion used for identifying morphological incorporation was suffixation: The second Norwegian word in (56), *shii-ga* 'ski-M.DEF', was suffixed with the definite article, and therefore classified as a loanword. There is also tonal morphology in Somali (see section 4.5.2), but because tone is the object of study here, it could not be used as a criterion. We need to know how loanwords are tonally adapted before we can know whether tone patterns can be used to distinguish borrowing and code-switching.

Another possible criterion for words like *Hóonefos* is phonological incorporation (of vowels and consonants). If the word is adapted to the phonology of Somali, then it may be classified as borrowing. However, as discussed in section 3.1.2, this criterion is problematic when speakers are late bilinguals and do not show native-like proficiency in Norwegian: The phonology may be Somali even when words are intended as code-switches. Therefore, words like *Hóonefos* are ambiguous. They were included in the analysis, but classified as *bare* (here meaning *suffix-less*), and later compared to morphologically incorporated words to see whether there was an effect from adding a suffix.

Single words that were direct quotes were also classified as code-switches, and discarded from the data. An example is *ikke* in (57).

(57) **Direct quote**

"*Ikke*" laakin waxa=i bar-ay tareen-ka.
not but FOC=1SG.OBJ teach-PST.3SG.M train-M.DEF

'But it was the train that taught me the word *not.*'
Loanwords from other languages  All of the participants in this study are at least quadrilingual (see section 7.1). They are of course not only borrowing from Norwegian; all of their languages show up in the data. Loanwords from other languages were not included in the analysis. In some cases, it is not clear whether a word was borrowed from English or Norwegian. This is illustrated in (58) with the word sistem 'system'. The input might either be English or Norwegian ([sys'teːm]).

(58) Sistém-ka si kale waaye.
    system-M.DEF way other DECL
    'The system is different.'

One possibility could have been to use tone assignment as a criterion: System has penultimate stress in English, and final stress in Norwegian. Sistém-ka in (58) has a final H, so it might be argued to be borrowed from Norwegian. However, because tone pattern is the object of study here, it cannot be used as a selection criterion (as discussed above). Examples like this were excluded from the analysis, but some of them are listed in table 12.16 in appendix B for illustratory purposes.

Tone was not used as a selection criterion, but segmental phonology was: For example, the word [ʋíntær-kíi] 'winter-M.REM.DEF’ was classified as a Norwegian loanword because the initial consonant was a labiodental approximant. The input is therefore most likely the Norwegian ['vintær].19 If the form [winter-kii] had occurred, it would have been excluded, because it would have been impossible to know whether the word was borrowed from English or Norwegian (with adaptation of [ʋ] to [w] in the latter case).

Complex language mixing  Not only did loanwords from a whole range of languages show up in the data, but sometimes several languages were used at the same time in a more complex form of language mixing. An example is illustrated in (59). Here, Norwegian loanwords are marked in boldface, and English loanwords in italics.

(59) Holdeplass to holdeplass waa one minute... wax-aad haysa-tid.
    bus.stop to bus.stop DECL one minute thing-M.DEF.2SG have-SUBORD
    'From bus stop to bus stop you have one minute.'

Somali does not have prepositions (but rather preverbal adpositions, see Saeed 1999 p. 109). Still, the English preposition to is used here in what seems to be a borrowed phrase. However, the other words in the phrase holdeplass to holdeplass are Norwegian. Examples like this were not included in the analysis.

19 Notice also that this word is morphologically incorporated, but not phonologically incorporated: there is no /œ/ in Somali (see section 4.2). As described above, obligatory morphology was used as a criterion for distinguishing code-switching and borrowing, but phonological incorporation was not.
7.3.2 Summary of forms included in the analysis

In sum, 120 minutes of spontaneous speech were recorded, and 30 minutes of elicited speech (picture description and nominative elicitation). After excluding possible code-switches and words that could have been borrowed from English, 181 Norwegian loanwords were identified and analyzed. These are all listed in appendix B. This number includes different inflectional forms of the same lexeme, but the number of tokens was much higher, because some forms were used several times. Token frequency for the different forms are not listed. The reason for this is that the corpus collected here is not necessarily representative of participants’ everyday speech, partly because it is small, and partly because of the context. The token frequency of a given form will say more about the topics that happened to show up in the conversations in this study, than the actual frequency of that form in the Oslo dialect of Somali. Moreover, the information is not relevant here, where the object is to describe how Norwegian words are adapted when spontaneously produced by native Somali speakers. Therefore, the information is not included.

7.3.3 Annotation and transcription

The sound files were annotated using ELAN. Whenever a Norwegian loanword was identified, the utterance it appeared in and the surrounding context were transcribed orthographically and translated. This was done in collaboration with P01. Note that tone is not marked in the Somali orthography (see section 4.4). Therefore, it is not marked in the example sentences in chapter 8 either, except (of course) in the Norwegian loanwords.

Because the overall syntactic, morphological and discourse context is important to describe tone assignment in Somali (see section 4.5.2), the sentences where Norwegian words occurred were analyzed and glossed according to the Leipzig Glossing Rules (see section 1.4). The Norwegian loanwords were then analyzed in more detail and transcribed in broad IPA. The transcription conventions described in section 4.1 were used as a basis, i.e. the same as when transcribing native Somali words. Additional details were added when needed, e.g. whenever words were not fully nativized, as in [vinter-kíi] (mentioned in 7.3.1).

7.4 Analysis of tone patterns

Tone assignment to Norwegian loanwords was analyzed in collaboration with P01, who repeated the words and commented on their tonal realization in different contexts. In addition, the pitch tracks were inspected in Praat (Boersma and Weenink 2017). An example of a pitch track is illustrated in figure (7.1). Here, the Norwegian adverb *videre* ‘further’ is used as a verb meaning ’continue’: [fidereinajaa] *fidereyn-ay-aa* ‘further-INF-PROG-PRS.1SG’. A

---

maxima in the $F_0$ trajectory (the point where rising pitch changes to falling pitch) was interpreted as the location of an H. There is a short fall in the beginning of the first vowel here. This is interpreted as an example of the effect that voiceless obstruents have on pitch (see Yip 2002 p. 35), i.e. as a phonetic effect and not a phonological H.

Because the main data in this study come from spontaneous speech, there were some instances of overlap (participants speaking at the same time), in which cases the pitch track calculations in Praat could not be trusted. The same thing applied to situations where there was background noise due to the recording situation. As described in section 7.2, the conversations were recorded in private homes, and the setting was relaxed. Some ambience from the room and the sound of people moving was unavoidable. In these cases, tone assignment was determined by perception only. All of the words were judged by both me and P01. Words were discarded from the analysis if their tone pattern could not be identified.

As described in section 4.5, there are some intonational phenomena in Somali that affect the phonetic realization of tone, and these were taken into account when describing the data. For example, a phonological LH sequence may be realized as phonetically MH. There is final lowering, which means that a phonological H may be realized as a phonetic M pre-pausally, and a phonological L may be realized on even lower pitch. Sometimes, final lowering also affects phonation and leads to creaky voice or voicelessness. Creaky voice can be seen on the last vowel in figure 7.1.
7.5 Describing the input forms

Describing the input forms of the Norwegian words is not a straightforward issue. There is some variation in Oslo when it comes to stress assignment: In what Kristoffersen (2000 p. 165) calls *vernacular East Norwegian*, primary stress may be moved to the initial syllable in some words. One of his examples is [prutə'steːɾə] ’to protest’ which for some people is [²prutəˌsteːɾə]. Notice also that the first example has accent 1 while the other has accent 2. Somali speakers may have been exposed to either, or both, which also means that the input form can be either or both.

It is of course possible that the input in some cases is orthographic, at least for some special words that the speakers don’t often hear spoken in their everyday lives. Tone is not marked in the orthography of Norwegian, but it is possible that speakers develop some sort of strategies for tone assignment to the words that they learn from reading. Trying to determine what that strategy is would be beyond the scope of this thesis. In any case, the orthographic representations of the words in Norwegian are included in the examples, and in the word lists in appendix B.

If a given word was learned as spoken rather than written, then not only the lexical tones matter, but also the Norwegian H% (see section 5.6.1). When a word is spoken in isolation, it will carry an H%. However, the exact location of the H% varies with the prosodic context. Therefore, as suggested in section 6.3.1, it is possible that the H% is not part of the lexical representation of these words for the Somali speakers, at least not high-frequency words that they have encountered in various prosodic contexts, with and without the H%. The possibility of preservation of the Norwegian H% will be discussed further in section 9.2.1.

Another possibility is that the most frequent inflectional form of a word determines which lexical tone (i.e. the L of accent 1 or the HL of accent 2) it has in a speaker’s L2 lexicon. As discussed in section 5.6.3, the word *ball* ’ball’ has an L because it is monosyllabic, but when a suffix is added, the tone depends on the suffix. *Ball-en* ’the ball’ has an L, but *ball-er* ’balls’ has an HL.

A pragmatic choice had to be made to describe the input forms. They were transcribed based on my own (UEN, Oslo) pronunciation, under the assumption that this is a reasonable estimate of input form. The transcription conventions used for the output forms of the Norwegian loanwords in Somali (see sections 4.1 and 7.3.3) were different from the ones used for the input forms. For the input forms, the transcription conventions in Kristoffersen (2000) were used (see section 5.1).

7.6 Classification

The Norwegian loanwords were classified in various ways. First of all, they were classified as either morphologically incorporated or not. As discussed in section 3.1.2, morphological incorporation is a possible criterion for distinguishing between borrowing and code-switching.
In chapter 8, the effect of adding a Somali suffix is described.

Second, the words were classified based on their word class, inflectional class and syntactic context. As discussed in section 4.5.2, all of these things matter for tone assignment in Somali. When it comes to nouns, the most important features for tone assignment are gender (M or F) and declension (D1, D2, D3), and whether or not the noun functions as a subject, has focus marking and/or occurs pre-pausally. Following Le Gac (2002), the latter three factors were coded with the features [±Subject], [±Focus] and [±Final].

Third, vowel quantity is hypothesized to play a role in the tonal adaptation patterns (see section 6.3.1). Vowel quantity in the syllable with primary stress in Norwegian (and in the corresponding syllable in the output form) was noted.

Most importantly, the words were classified based on the tone assignment pattern that was used. Three different patterns were identified, listed in (60).

(60)  

**Tone assignment patterns**

1. Norwegian tone/stress was preserved, and native Somali rules did not apply.

2. Two high tones were assigned to the same word, where one was a way of preserving the input, and the second conformed to the Somali patterns.

3. Tone was assigned in accordance with the native Somali rules. Either the input tone was ignored, or preservation of input and Somali tone assignment coincided (i.e. the input could be preserved without violating the restrictions in Somali). In some of these cases, tone assignment was unexpected, but not unattested in native Somali words, i.e. an irregular or exceptional pattern applied.

The words of type 1 and 2 were further analyzed based on how Norwegian stress and tone were preserved, i.e. whether the distinction between accent 1/L and accent 2/HL was preserved, and whether vowel quantity mattered for tone assignment. The words of type 3 were further analyzed based on which of the available Somali patterns was used.

All of the major types of adaptation strategies listed here were found with most or all participants. Some variation was found, e.g. regarding which declension a noun was placed in, and this will be pointed out along the way in chapter 8. There could have been differences between speakers based on e.g. gender, age, dialect or duration of residence in Norway. No such patterns emerged from the data, and the results are therefore pooled together rather than grouped per participant. Note that the sample here is too small to say anything conclusive about whether there actually are such patterns in the population.

**7.7 Chapter summary**

This chapter has introduced the participants in the study. Procedures for collecting data and identifying and analyzing loanwords were discussed. The main type of tone assignment pat-
terns that were attested in the data were presented. In the next chapter, we will have a closer look at the different types of outcomes.
8 Results

In chapter 6, two competing hypotheses were discussed. The first one said that tone is expected to be assigned to Norwegian loanwords based on the native Somali rules of morphological tone assignment. Previous research on loanword prosody suggests that prosodic properties in the source language is less likely to be preserved if the recipient language has strict restrictions on its distribution of stress or tone. Because tone assignment in Somali depends on grammatical features, the same principle may apply here. On the other hand, the likelihood of preservation of input has been suggested to be higher when language contact is more intimate and the degree of bilingualism is higher. The second and alternative hypothesis is thus that because the speakers in this study are bilinguals who have lived in Norway for years, Norwegian stress/tone will be preserved when words are borrowed into Somali. As already revealed in section 7.6, both of these strategies were attested, sometimes even in different locations inside the same word.

As most loanwords in the dataset are nouns, these will be used to illustrate the different strategies in sections 8.1-8.3. A note on other word classes is provided in section 8.4. It will be necessary to discuss details of the analysis along the way, but a more general discussion is provided in chapter 9. It would not be feasible to include all of the words from the dataset in this chapter. The different strategies are illustrated with examples, but complete word lists are provided in appendix B.

8.1 Preservation of Norwegian prosodic properties

In some words, prosodic properties in the Norwegian input were preserved in violation of the native Somali tone assignment patterns. The nouns that fell into this category are listed in table 12.1 in appendix B. An example is provided in (61) with the place name *Hønefoss*. Here, the H in the output [hóonefos] is too far away from the right edge of the word to be explained by the native Somali rules. But the word has initial stress and the HL of accent 2 in Norwegian: [²høːnəˌfɔs]. It seems safe to say that the Norwegian HL is preserved as a Somali HL here.

(61) **Accent 2/HL →HL**

Waa meel yar oo Hóonefoss mar-ka loo socd-o.
DECL place small CONJ place.name time-M.DEF INDF.SBJ.to proceed-SUBORD

'It is a small place (when you are) on the way to Hønefoss.'

[hóonefos] < [²høːnəˌfɔs] *Hønefoss* (place name)

Here, the location of the H in the output was the main cue to deciding whether or not Norwegian prosodic properties are preserved. The next question is what exactly it is that is preserved (e.g. tone or stress), and how it is realized in Somali. In section 6.3.1, it was hypothesized
that the HL of accent 2 would become a Somali H if the vowel is short, and HL if the vowel is long. The reason for this is that the TBU in Somali is the mora, and the mora associates to vowels, meaning that a long vowel (two moras) is needed to realize a contour (two tones). This hypothesis seems to be supported by the data. An example of a short vowel with H is illustrated in (62), and an example of a long vowel with HL is illustrated in (63).\footnote{In (63), the input is actually two Norwegian words, \textit{trinn} 'level' and \textit{fire} 'four'. The speaker later pointed out himself that this is one word to him in Somali, although he knows that it is two words in Norwegian. The definite form of this noun for this speaker is \textit{trinfíirá}, which confirms his analysis: If it was two words, it would have been \textit{trinn-ka fiirá-ha}.}

(62) \textbf{Accent 2/HL $\rightarrow$ H}

\[
\begin{align*}
\text{Waxa la-ga yaab-aa in misfoshtoorelse dhac-o.} \\
\text{FOC INDF.SBJ-from wonder-PRS.3SG.M that misunderstanding happen-SUBORD}
\end{align*}
\]

'It is possible that a misunderstanding arises.'

[\textit{misfɔʃˌtɔːɭsə}] $\text{misforståelse}$ 'misunderstanding'

(63) \textbf{Accent 2/HL $\rightarrow$ HL}

\[
\begin{align*}
\text{In=aan haddana bilaab-o trinfíire.} \\
\text{that=1SG again begin-SUBORD level.four}
\end{align*}
\]

'That I begin level four.'

[\textit{trinfíire}] $\text{[ˈtrɪn fɪːɾə]}$ \text{trinn fire} 'level four'

Note, however, that sometimes there is a short vowel in the input form and a long vowel in the output form (64). There are no restrictions on the distribution of long or short vowels in Somali, so the reason for this change is not clear. One possibility is that the vowel is lengthened in order to realize the contour (but see 67 below).

(64) \textbf{V $\rightarrow$ V:}

\[
\begin{align*}
\text{Xaggeed deg-tay Nóorge?} \\
\text{where.FOC.2SG settle-PST.2SG Norway}
\end{align*}
\]

'Where in Norway did you settle?'

[nóorge] $\text{[ˈnɔɾɡə]}$ \text{Norge} 'Norway'

The tonal contrast in Somali may be described as privative (i.e. H vs. $\emptyset$ rather than H vs. L, see section 4.5). Two main possibilities for preservation of the L of accent 1 were discussed in section 6.3.1: The first is that the phonetic pitch contour is preserved, and the L is realized as a Somali L (or $\emptyset$). The second is that its \textit{perceptual prominence} may be preserved instead. In that case, the L might become a Somali H, because the latter arguably is the most perceptually prominent tone in Somali. As illustrated below, it seems to be the case that it becomes a Somali H if the vowel is short (65) and a Somali HL if the vowel is long (66).
8.1 Preservation of Norwegian prosodic properties

(65) **Accent 1/L →H**

\[
\begin{align*}
\text{Isniin-tii} & \quad \text{waan} \quad \text{bilaab-ay}=\text{ba} \quad \text{barasha-da} \\
\text{Monday-F.REM.DEF} & \quad \text{DECL.1SG} \quad \text{begin-PST.1SG}=\text{already} \quad \text{learning-F.DEF} \\
\text{af-ka}, & \quad \text{nóshkobraarin}. \\
\text{language-M.DEF} & \quad \text{Norwegian.training}
\end{align*}
\]

’Already that (the following) Monday I started language class, Norwegian training.’

[nóʃkobraarin] < ['nɔʂkɔpˌɭæːɾiŋ] norskoppleiring ’Norwegian training’

(66) **Accent 1/L →HL**

\[
\begin{align*}
\text{Éedsfool} & \quad \text{buu} \quad \text{aha.} \\
\text{place.name} & \quad \text{FOC.3SG.M} \quad \text{COP}
\end{align*}
\]

’It was Eidsvoll.’

[éedsfool] < [ˈæjtsˌʋɔl] Eidsvoll (place name)

Also in these cases, there are some examples of changes in vowel quantity. In [puɭi¹tiːˌkɑməɾ] ‘police station’, the syllable with primary stress has a long vowel in the Norwegian input form. As illustrated in (67), this vowel is shortened.

(67) **V: →V**

\[
\begin{align*}
\text{Waxa} & \quad \text{la} \quad \text{noo} \quad \text{diyaari-yay} \quad \text{mar-kaa} \quad \text{in=aan} \quad \text{qaban-no} \\
\text{FOC} & \quad \text{INDF.SBJ} \quad \text{1PL.to} \quad \text{prepare-PST.3SG.M} \quad \text{time-M.DEM} \quad \text{that=1PL} \quad \text{go-SUBORD} \\
\text{Oslo} & \quad \text{bulitikamør}. \\
\text{police.station} & \quad \text{Oslo}
\end{align*}
\]

’We were prepared at that time to go to Oslo police station.’

[bulitikamør] < [puɭi¹tiːˌkɑməɾ] politikammer ’police station’

As illustrated in (67) and (64), vowels may be both lengthened and shortened in words when borrowed into Somali. It is possible that the phonetic realizations of the vowel quantity contrast differ in the two languages, and that the change reflects speakers’ L2 perception of the Norwegian vowel quantity contrast. Their mapping of the two categories (short/long) in Norwegian to the two categories in Somali is possibly not one-to-one. It would be beyond the scope of this thesis to describe when and why vowels are shortened or lengthened, and these issues will be left for future research.

As illustrated in (62-67), accent 1 and accent 2 in Norwegian are preserved in the same way: as an H if the vowel is short, and HL if the vowel is long. This generalization is further supported by the words that had two high tones (see section 8.2). In other words, it is the vowel quantity (in the output) that matters for the choice between H and HL, not the difference between the two tones in Norwegian. If the tonal contrast in Norwegian is lost when words are borrowed into Somali, it may not make sense to describe this strategy as preservation of Norwegian *tone*. What seems to be preserved, is the *location* of the syllable with
primary stress and tone in Norwegian, or the more general perceptual prominence of this syllable.

The only unambiguous examples of this strategy alone were found with bare nouns. It is possible that the lack of suffix makes it less probable that a word be nativized. Therefore, one might argue that these examples illustrate single-word code switching rather than borrowing. As discussed in section 3.1.2, it is hard to distinguish between single-word code-switches and unassimilated loanwords, and a possible criterion is whether or not the word is morphologically incorporated. But there were also some words that were assigned two high tones, where the first seems to be a way of preserving the Norwegian input. This pattern also occurred with words that were morphologically incorporated, meaning that suffixation itself does not necessarily block the preservation of Norwegian stress/tone. Rather, it is possible that suffixation necessarily is followed by the assignment of an H which is in accordance with the native Somali patterns, i.e. that words are nativized when suffixed. The words with two high tones are the topic of the next section.

8.2 Two high tones

Some nouns had two high tones, in violation of the culminative property of the Somali H (see section 4.5.1). The first tone seems to be the result of preservation of Norwegian input. The nouns that fell into this category are listed in tables 12.2 and 12.3 in appendix B. In (68), this pattern is illustrated with the word saksbehandler ‘case worker’.

(68) One word, two high tones

Waxaan ark-aa naag ságsbehandlér ah.
FOC.1SG see-PRS.1SG woman case.worker COP

'I see a woman who is a case worker.'
[ságsbehandlér] < ['sɑːksbəˌhɑndɭəɾ] saksbehandler ‘case worker’

Because words are supposed to have maximum one H in Somali, it is possible that the example in (68) actually shows two words. In Norwegian, saksbehandler is a compound. In native Somali nouns, we can distinguish between N+N compounds and multiword expressions by adding the definite article: Compounds only have one definite article, as in af-xuma-da, mouth-ugliness-F.DEF, ’insult’. In multi-word expressions, both (or all) nouns have a definite article, like in dawlad-da federaal-ka, government-F.DEF federal-M.DEF, ’the federal government’. As illustrated in (69), saksbehandler gets only one definite article. In other words, it is interpreted as a single word by the speaker. Whether it is analyzed as a compound or a simplex word is not clear.
8.2 Two high tones

(69) **Definite form**

Haa, ságsbehandlér-ka ayaa ku jir-a.
yes case.worker-M.DEF FOC in exist-PRS.3SG.M

'Yes, the case worker is in (the picture)'

[ságsbehandlérká] < ['saːksbəˌhandlər] saksbehandler ’case worker’

Regarding the first tone in these words, the same pattern was found here as for the words discussed in section 8.1: If the output vowel was short, it was assigned a H, as in (68). If it was long, it was assigned a HL (70-71). Notice once again that it is the vowel quantity in the output, rather than the input, that matters.

(70) **Accent 1/L = HL**

Waxaan ark-aa nin róorlegér ah.
FOC.1SG see-PRS.1SG man plumber COP

'I see a man who is a plumber.'

[róorlegér] < ['ɾøːˌɭɛɡɾ] rørlegger 'plumber'

(71) **Accent 2/HL = HL**

Iya-da fóolkahayskúul baan u dir-ay.
3SG.F-F.DEF folk.high.school FOC.1SG to send-PST.1SG

'I sent her to a folk high school.'

[fóolkahajskúul] < [ˈfɔlkəhœjˌskuːɭə] folkehøyskole 'folk high school'

In figure 8.1 on page 78, the pitch track of ságsbehandlérka from (69) is illustrated, and in figure 8.2, the pitch track of róorlegér from (70) is illustrated. Both ságsbehandlérka and róorlegér have two peaks, which are interpreted as locations of Hs. The first tone-bearing syllable has even pitch in ságsbehandlérka, which is interpreted as a H. In róorlegér, the first tone-bearing syllable has falling pitch, which is interpreted as a HL.

The question, then, is where the second tone comes from. There are at least two possibilities: It may either be a way of preserving the Norwegian H%, or it may be assigned by native Somali rules. These two possibilities are discussed further in chapter 9, where it is concluded that the most likely explanation is that the second tone is assigned by native Somali rules. If this analysis is correct, these words illustrate the use of two different strategies (preservation of Norwegian tone/stress and Somali tone assignment) at different locations inside the same word. Somali tone assignment is the topic of the next section.

---

22 There is a slight and inaudible fall in the beginning of the vowel. This is interpreted as the phonetic lowering effect that voiceless obstruents have on the pitch of the following vowel (see Yip 2002 p. 35 and also figure 7.1 on page 69).
8.3 Somali morphological tone assignment

In some cases, the tone pattern in Norwegian loanwords can be described by the native Somali rules of morphological tone assignment. The nouns that fell into this category are listed in tables 12.4-12.12 in appendix B. These words were of two types: Either Norwegian stress and tone were ignored, or the Somali tone assignment rules coincided with the location of stress and tone in Norwegian. The latter type could just as easily have been grouped under Preser-
8.3 Somali morphological tone assignment

vation of Norwegian prosodic properties (8.1), in which case we could say that the Norwegian input was preserved without violating any native Somali rules. The opposite description is chosen here, i.e. that an H was assigned by the Somali rules without violating the properties of the input form.

In native Somali nouns, tone assignment depends on e.g. gender and declension (see section 4.5.2). In section 6.2.1, it was hypothesized that most Norwegian nouns would become masculine nouns of D1. Nouns ending in -e were hypothesized to become masculine nouns of D2, and nouns ending in -o were hypothesized to become feminine nouns of D2. Nouns ending in -a were expected to become D2 nouns, either feminine or masculine. It was also suspected that some nouns might fall into D3, but it is generally not possible to predict which singular nouns belong here (see section 4.7). As we will see in this section, these hypotheses are to a certain extent supported, but the picture is a bit more complicated. We will look at the three declensions in turn.

8.3.1 Declension 1

Recall from section 4.5.2 that D1 nouns are either masculine and have a penultimate H, or feminine and have a final H. The loanwords that followed this pattern are listed in tables 12.4-12.5 in appendix B. First, we’ll discuss masculine nouns, then feminine ones.

**Masculine nouns** In (72), the Norwegian word kvittering 'receipt’ takes the masculine definite article and a penultimate H. Here, the penultimate H may be a way of preserving the location of primary stress in the input. But in that case, it is preserved as LH, a pattern that is non-existent in the unambiguous examples of preservation discussed in sections 8.1 and 8.2.

If the generalization that was made in those two sections is true (i.e. that the syllable with primary stress in Norwegian gets an H in Somali if the vowel is short, and an HL if the vowel is long), the H in [kiteérin] is best described as a penultimate H assigned by native Somali rules.

(72) Kiteérin-káy ka qaadan-ay-aan.
receipt-M.DEF.FOC.3PL from take.for.oneself-PROG-PRS.3PL
'They take the receipt from you.'

[kiteérinkáj] < [kʋi¹teːɾiŋ] kvittering 'receipt'

There were surprisingly few unambiguous examples of masculine nouns in D1 (only three). On the other hand, most of the examples where tone assignment was consistent with both Norwegian and Somali patterns, were of this type. A few examples are illustrated below. In (73), the noun (ski) is monosyllabic. In (74), the noun (bibliotek) has final stress in Norwegian. In (75), the noun (vinter) has penultimate stress in Norwegian, with a short vowel, which means that this syllable corresponds to the penultimate mora in Somali.\(^{23}\) In all three cases, Somali tone assignment and preservation of Norwegian input yield the same result.

\(^{23}\)Recall from section 4.3 that only vowel quantity matters for syllable weight in Somali. This means that vinter becomes bimoraic although it has three moras in Norwegian, where the first syllable is heavy due to the coda consonant.
(73) Intaan Hóonefos la teg-in waa meel... shií-ga la-gu until.NEG place.name INDF.SBJ go-NEG DECL place ski-M.DEF INDF.SBJ-by ciyaar-o.
play-SUBORD
'BBefore you reach Hønefoss there is a place where people go skiing.'
[ʃíiɡa] < ['ʃiː] ski 'ski'

(74) Shalay waxaan teg-ay bibliyutéeg-ga.
yesterday FOC.1SG go-PST.1SG library-M.DEF
'Yesterday, I went to the library.'
[bibliyütéegga] < [bibliju^te:k] bibliotek 'library'

(75) Vínter-kíi oo dhan baa la-gu ciyaar-aa.
winter-M.DEF.REM CONJ all FOC INDF.SBJ-by play-PRS.3SG.M
'People go skiing there all winter.'
[vínterkíi] < ['vintɾ̩] vinter 'winter'

Feminine nouns There were only three feminine nouns belonging to D1 in the data, and a fourth with irregular tone assignment. The first example, [tʃídâɡta], is illustrated in (76).24

(76) Haddii kale maalin-too tishdâ-ga waxa la-ga yaab-aa
if other day-F.DEM Tuesday-F.DEF FOC INDF.SBJ-from wonder-PRS.3SG.M
in=aan anna-ka bilaaw-no birivâad.
that=1PL.EXCL 1PL.EXCL-M.DEF begin-SUBORD private
'If not, it is possible that we’ll start private school on Tuesday.'
[tʃídâɡta] < ['tʃíːɡ̊ ɗàːɡ] tírsdåg 'Tuesday'

Here, Norwegian stress is ignored, and a final H is assigned as expected for feminine D1 nouns. It is not entirely clear why this word is feminine, because there is to my knowledge nothing about e.g. the segmental phonology that would explain this. But as described in section 4.7, the Somali words for the days of the week (which are Arabic loanwords) are all feminine (except Friday, jimce, which ends in -e and therefore is necessarily masculine: jimcâ-ha 'Friday-M.DEF'). Maybe the speaker generalizes this pattern when borrowing the corresponding Norwegian words.

The second feminine D1 noun was the Norwegian word rektor 'school principal', derived with the Somali suffix -ád 'feminine occupation' (77). Here, it is the derivational suffix that makes the word feminine rather than the root. As discussed in section 4.5.3, when a high-toned suffix in Somali is added to a word through either inflection or derivation, only the rightmost H remains (the exception is high-toned determinatives - see section 4.5.4 for a discussion). This seems to be the case here as well, where the root [reɡtoor] is low-toned.

24Note that there are several ways of pronouncing tírsdåg 'Tuesday' in Norwegian, e.g. ['tʃíːɡ̊ dɔːɡ], ['tʃíːɡ̊a] and ['tʃiːɡ̊a]. It is possible that the speaker has heard this word with a final [g], but another possibility is that it is present in the output as a result of influence from the orthography.
Waxaan wac-ay regtoor-ád-da iskuul-ka.
FOC.1SG call-PST.1SG principal-FEM-F.DEF school-M.DEF
'I called the school principal.'
[regtoorádda] < ['rekru] rektor 'principal'

The third feminine word was UFF, which is the name of a second hand shop. Because it is monosyllabic, it necessarily gets an ambiguous tone assignment pattern. It is even monomoraic in Somali because the vowel is short, so there is only one option for tone assignment (78). It is not clear why this word is feminine, but this is not uncommon for institution names (other examples are BBC-da, UDI-da).

Meesha úf-ta, huudhayr-ka, ayaan teg-ay.
place.F.DEF proper.noun-F.DEF second.hand-M.DEF FOC.1SG go-PST.1SG
'I went to UFF, the second hand shop.'
[úfta] < ['uf] UFF (shop name)

In addition to the three feminine nouns discussed so far, there was a fourth feminine noun that had irregular tone assignment, namely NAV (proper noun). As illustrated in (79), it has the feminine definite article, but a penultimate H.

Naag-tu=na waxay ka shaqey-saa náaf-ta.
woman-F.DEF.NOM=and FOC.3SG.F from work-PRS.3SG.F proper.noun-F.DEF
'And the woman works at NAV.'
[náafta] < ['naːf] NAV (proper noun)

One possibility here is that it is an example of preservation of Norwegian stress/tone as HL. But while the penultimate H here is unexpected by native Somali rules, it is not completely unattested (see section 4.5.2): There are a few exceptional feminines that follow this pattern in Somali words as well, such as sábti-da 'Saturday-F.DEF' and sáddex-da 'three-F.DEF'. Moreover, some proper nouns in Somali have irregular tone assignment: the female names Deéqa and Hódan have a penultimate H (Saeed 1999 p. 67). It is possible that náaf-ta gets irregular tone assignment simply because it is a proper noun, and proper nouns can be different. Another question is why it is feminine. Like UFF, this is also an institution name. In addition, náaf is similar to the feminine Somali noun náf ‘soul, life’ (which is an Arabic loanword).

8.3.2 Declension 2

Recall from section 4.5.2 that nouns in D2 are either masculine and end in -e, like waraabe 'hyena', or feminine and end in -o, like abeeso 'python'. Tone assignment to the indefinite form of these nouns depends on their syntactic function, focus marking and position in the sentence. In isolation, it varies between speakers, e.g waraābe/waraabé and abeeeso/abeesó.

25 According to my consultants, the word huudhayr (or huudhaydh), is a borrowing of the English phrase "Who died?". People supposedly believed that when they got clothes from Europe, they came from someone who died. Today, this is an established word for second hand clothes in general.
The definite form has a stem-final H: \textit{waraabá-ha, abeesá-da}. Notice also that the final vowel assimilates with the vowel of the determinative, in this case \textit{-a}. The loanwords that fell into this category are listed in table 12.6 in appendix B.

**Masculine nouns**  The Norwegian loanwords that become masculine nouns of D2 are of two types: Either they end in \textit{-e} in Norwegian, or an \textit{-e} is added to the Norwegian word. The former type is illustrated in (80) with the Norwegian words \textit{helse} and \textit{trinn fire}. The \textit{-e} assimilates to the vowel of the article. Here, Norwegian tone and stress are ignored, and a final H is assigned as expected by the Somali rules.

\begin{enumerate}
\item \textbf{Nouns ending in \textit{-e} in Norwegian}
\begin{enumerate}
\item Waxaan wac-ay \textit{regtoor-ád-da iskuul-ka, tan} FOC.1SG call-PST.1SG school.principal-FEM-F.DEF school-M.DEF F.DEM qaabilsan \textit{helsá-ha}.
responsible health-M.DEF
'I called the school principal, the one responsible for health'
[helsáha] < [ʰɛɭsə] helse 'health'
\item \textit{Trinfiirí-híi baan dhammee-yay.} level.four-M.REM.DEF FOC.1SG finish-PST.1SG
'I finished level four.'
[trinfiiríhíi] < [¹tɾin ²fiːɾə] trinn fire 'level four'
\end{enumerate}
\end{enumerate}

In (80b), the remote definite form of [trinfiire] is illustrated. When the word did not carry a Somali suffix (see (63) on page 74), Norwegian tone was preserved. In the suffixed form [trinfiiri-híi], the H shifts to the stem-final mora as expected by the Somali rules. This illustrates that nativization is more likely when a word is morphologically incorporated.

In the second type, an \textit{-e} is added to a Norwegian word, possibly to avoid a consonant cluster in the coda, which is prohibited in Somali (see section 4.3). This is illustrated in (81). The Norwegian word \textit{tolk} 'interpreter' becomes [tolké] (81a). The \textit{-e} allows the \textit{k} to resyllabify as onset in a new syllable ([tol.ke]). The definite form is [tolkáha], as illustrated in (81b).

\begin{enumerate}
\item \textbf{Nouns with an added \textit{-e}}
\begin{enumerate}
\item Ma laga yaab-aa \textit{tolk-é} INDF.SBJ.from wonder-PRS.3SG.M that=1SG interpreter-NMLZ noqd-o?
become-SUBORD
'Is it possible that I will become an interpreter?'
[tolké] < [ˈtəlk] tolk 'interpreter'
\item Ma \textit{fahm-in tolk-á-ha.} NEG understand-NEG interpreter-NMLZ-M.DEF
'I didn’t understand the interpreter.'
[tolkáha] < [ˈtəlk] tolk 'interpreter'
\end{enumerate}
\end{enumerate}
At first sight, this might look like the insertion of an epenthetic vowel, i.e. a vowel that is inserted to break up an illicit consonant cluster. Epenthetic vowels in loanwords in Somali are normally one of two types: Either one that comes between the two consonants in a cluster, in which case it usually is a copy of the adjacent vowel: galaas < glass. Or it comes before or after the cluster, in which case it is an i: isboorti < sport (see e.g. Mioni 1988). Based on this, we would expect tolk to become either tôlog or tölki. So why does it become tolké?

As already alluded to in the glossing of (81), the -e in Somali is a nominalizing suffix. It may have an agentive or instrumental meaning (Zorc and Osman 1993 p. xvi), e.g. bar 'teach', bare 'teacher'. The agentive meaning may work for tolk (though it is strictly speaking unnecessary), but not for helg, which is illustrated in (82).

(82) Maalin helg-é áh baan Niiná u tegi doon-aa.
   day weekend-NMLZ COP FOC.1SG person.name to go.INF will-PRS.1SG
   'I will go to Nina this weekend (lit.: a day which is weekend)'

In some cases, -e doesn’t seem to have any particular meaning even in Somali, as in tuke, 'crow' (but *tuk). In other words, it may work as a general nominalization suffix in the examples above, where it makes the words more "Somali-like" and easier to nativize and incorporate into the language. Apparently, derivation is used as a strategy for avoiding a coda cluster in (81-82), rather than an epenthetic vowel.

Conversely, a noun ending in -e in Norwegian may have this final vowel deleted, possibly as a form of suffix removal or back formation. In this case, the noun will fall into D1 instead, as in teebáan-ka < T-bane 'subway'. Some words are found in both versions. This is illustrated in (83-84) with norsk 'Norwegian', which becomes noshk-é – noshk-á-ha for some speakers, and nóshk – nóshk-a for others.

(83) **Norsk with an added -e**

a. Maxaad ku hadl-ay-saa, **Noshk-é** mise Carabi?
   what.2SG in speak-PROG-PRS.2SG Norwegian-NMLZ or Arabic
   'What language are you speaking, Norwegian or Arabic?'
   [nøʃké] < ['nøʃk] norsk 'Norwegian'

b. **Noshk-á-ha** waa=ban akhri laaha.
   Norwegian-NMLZ-M.DEF DM=even.1SG read would.1SG
   'I would even read Norwegian.'
   [nøʃkáha] < ['nøʃk] norsk 'Norwegian'

(84) **Norsk without an added -e**

a. **Nóshk** ma bara-taa?
   Norwegian Q learn-PRS.2SG
   'Are you learning Norwegian?'
   [nøʃk] < ['nøʃk] norsk 'Norwegian'
b. Adi-ga siduu ku ahaa mar-kaad Nóshk-a
2SG-M.DEF how.FOC.3SG.M in COP time-M.DEF.2SG Norwegian-M.DEF
baran-ay-say?
learn-PROG-PST.2SG
‘What was it like (how was it for you) when you were learning Norwegian?’
[nóʃka] < ['nɔʂk'] norsk ’Norwegian’

It is possible that the input form in (83) here is not norsk, but rather norske ['nɔʂka], which is used with definite or plural nouns (e.g. det norske språket ’the Norwegian language’ or de norske studentene ’the Norwegian students’). However, this explanation does not work for tolké and helgé, because there are no such corresponding Norwegian forms.

**Feminine nouns** Feminine nouns of D2 in Somali end in -o, such as abeeso ’python’. There are no examples of Norwegian words ending in -o in the data, but an example with -a is illustrated in (85) with the word Lånekassa (proper noun). This is one of the words with two high tones (see section 8.2). It gets the definite article -da, like feminine D2 nouns. The second, stem-final H is in accordance with the Somali D2 pattern.

(85) Waxaan wac-ay Lóonekaasá-da.
FOC.1SG call-PST.1SG proper.noun-F.DEF
’I called Lånekassa.’
[lóonekaasáda] < [³løːnəˌkɑsɑ] Lånekassa ’The Norwegian State Educational Loan Fund’

The Norwegian -a is in fact a definite article, and the indefinite form is Lånekasse. If this was the input form, we would expect the Somali definite form to be Lóonekaasá-ha (with the masculine D2 definite article -ha rather than the feminine -da), due to the final -e in the indefinite form. But because this is a proper noun, the indefinite form is rarely, if ever, used. On the other hand, the -en definite suffix is also used in Norwegian, so a possible input form is Lånekassen. This would be even harder to explain, so the most likely input is Lånekassa. The same thing happens to the word kasse ’cash register’, as illustrated in (86).

(86) Kaasá-da ayuu ka shaqee-yaa.
cash.register-F.DEF FOC.3SG.M at work-3SG.M
’He works at the cash register.’
[kaasáda] < [³kɑsə] kasse ’cash register’

Once again, it is possible that the input is kassa with the Norwegian definite article -a. If the indefinite form kasse was the input here, the Somali definite form should have been kaasá-ha (once again with the masculine definite article -ha due to the final -e). So the question is what this word is in the indefinite form in Somali. If it is kaase, it is not clear why it takes the feminine definite article. If it is kaasa or kaaso, it would be in line with Italian loanwords like baastó - baastáda < pasta (see section 4.7). This was checked with this participant (P01)
after the main data collection period. Surprisingly, the indefinite form is *kaase* (tone assignment will be described shortly). The fact that *kaase* is feminine although it ends in *-e* goes against one of the hypotheses set up in section 6.2.1, namely that nouns ending in *-e* will be masculine (but they do fall into D2 as expected). P01 informed me that he had heard the form *kaasaha* used as well, so there seems to be some room for variation here. But to him, there was no problem with the combination *kaase - kaasada*.

Tone assignment to *kaase* in the indefinite form is as expected for D2 nouns regardless of gender (see section 4.5.2): In (87) it is focused and occurs word-finally, and thus it has a penultimate H. In (88) it is the head of the noun phrase *kaasé wálba*. Here it has no focus or nominative case marking, and thus it has a final H (nominative case marking will be discussed in section 8.3.5).

(87) Waxaan ark-aa *kaáse*.  
FOC.1SG see-PRS.1SG cash.register  
'I see a cash register.'  
[kaáse] < [²kɑsə] *kasse* 'cash register'  

(88) *Kaasé* walba qof baa fadhi-ya.  
cash.register every person FOC sit-PRS.3SG.M  
'At every cash register sits a person.'  
[kaasé] < [²kɑsə] *kasse* 'cash register'  

8.3.3 Declension 3

Recall from section 4.5.2 that all D3 nouns are masculine and have a final H. Most of them are plurals, but there are a few singulars as well. Some of these exceptional singulars are loanwords, e.g. from Arabic. A few Norwegian loanwords also fall into this class. These are listed in tables 12.7-12.8 in appendix B and are of two types. The first type is words like [egsaamén-ka] 'exam-M.DEF', illustrated in (89): Here, Norwegian stress and tone is ignored (though notice that the vowel length of the syllable with primary stress in Norwegian is preserved).

(89) *egsaamén*-ka caadiga eh  
exam-M.DEF normal COP  
'the exam which is normal, the normal exam'  
[egsaaménka] < [ɛk¹sɑːm̩̊ɛn] *eksamen* 'exam'

The second type is words that have final stress in Norwegian, which means that the H can be assigned as a way of preserving the input. This is illustrated in (90) with *betir* 'meaning'. This is in fact a verb in the present tense in Norwegian, but because the possessive determiner is added, it is treated as a Somali noun.

(90) *egsaamén*-ka caadiga eh  
exam-M.DEF normal COP  
'the exam which is normal, the normal exam'  
[egsaaménka] < [ɛk¹sɑːm̩̊ɛn] *eksamen* 'exam'
As discussed in section 4.5.2, the H in Somali D3 nouns may optionally be deleted in certain contexts. One way of determining whether the Norwegian words discussed here really are treated as D3 nouns, is to see whether the same thing happens to them. Another possibility is that these words have the Norwegian input preserved. There are no examples in the present data where the H is deleted in the relevant contexts, but this does not mean that it is not possible, because it may be optional. This issue is left for future research.

### 8.3.4 Bare nouns

Some nouns only occurred without a suffix. In some of these words, the H appeared too far away from the right edge of the word to be explained by the Somali rules, and the H was analyzed as a way of preserving prosodic properties of the Norwegian input form. These examples were discussed in section 8.1. Conversely, some bare nouns had an H that cannot be described as a way of preserving the input, but which was in accordance with the native Somali tone patterns. Some examples of tone assignment to bare D2 nouns were already discussed in section 8.3.2 (see also table 12.6 in appendix B). An example with a final H is illustrated in (91), with a name that is analyzed as a D2 noun because it ends in -a.

(91) Immikaan Niiná u sheeg-ay-ay.
    now.FOC.1SG person.name to tell-PROG-PST.1SG
    'I was telling Nina just now.'
    [niiná] < [²niːnɑ] Nina (person name)

The final H in (91) is expected for a D2 noun without focus and nominative marking. It can of course also be a way of preserving the Norwegian H%, but as we will see in the next section, the H shifts to the penultimate mora when this word is nominative case marked, as expected for Somali nouns of D2. Without a suffix or any other gender cue (e.g. subject-verb agreement), we can’t say anything conclusive about the tone assignment pattern. Words like this are listed in tables 12.9-12.10 in appendix B. An example with a penultimate H is illustrated in (92).

(92) Taa-yi shaalóom bay ahayd, ma og-tahay?
    F.DEM-NOM slalom FOC.3SG.F COP Q knowing-COP
    'That was slalom, you know.'
    [ʃaalóom] < [²ʂɭɑːɭɔm] slalåm 'slalom'
This may be masculine because of the penultimate H, but as discussed in section 4.5.2, there are also exceptional feminine nouns that take a penultimate H in Somali. The demonstrative taayi is feminine, but this refers back to the story that the speaker just told.

### 8.3.5 Tonal case marking

Case marking on bare nouns in Somali is largely tonal. However, it is not used very frequently. As described in chapter 4, there are two main reasons for this. These are repeated here, but the reader is referred back to section 4.5.2 for examples. The first reason is that only the last element in the noun phrase is case marked. Because the noun phrase is head-initial, the head noun itself is not case marked if the noun phrase is complex, e.g. if the definite article is added. The second reason is that focus marking blocks nominative case marking. In other words, nominative case is only marked on the head noun if it is bare and does not express new information. But if the subject does not express new information, it is not necessary to express it through a noun phrase in the first place, and often, a subject clitic pronoun is used instead.

**Nominative**

There were no examples of nominative case marking of bare Norwegian nouns in the spontaneous speech data. As described in section 7.2.3, some additional data were collected through elicitation, and a few examples of nominative case marking were collected this way. Note that these data are based on examples from only one participant (P01). Recall from section 4.5.2 that for masculine nouns of D1 and D3, nominative case is marked by deleting the H (though it is optional for D3 nouns). An example of an absolute/nominative pair is illustrated in (93). Notice that both Hs are deleted in (93b).

(93) **Absolute and nominative case**

a. Waxaan ark-aa naag ságsbehandlír ah.
FOC.1SG see-PRS.1SG woman case.worker COP
'I see a woman who is a case worker.'

[ságsbehandlír] < [ˈsɑːksbɛˌħɑndlɛɾ] saksbehandler 'case worker'

b. Maya, ságsbehandlír ku ma jir-o sawir-ka.
no case.worker.NOM in NEG exist-NEG picture-M.DEF
'No, there is no case worker in the picture.'

[ságsbehandlír] < [ˈsɑːksbɛˌħɑndlɛɾ] saksbehandler 'case worker'

Recall from section 4.5.2 that for nouns of D2, nominative case is marked by shifting the H from the final to the penultimate mora. This is illustrated in (94) with the Norwegian name Niína. The absolute form of this name was illustrated in (91) and is repeated here as (94a). Here, it is the object of the preverbal adposition u 'to'. It is in the so-called absolute case form and has a final H. In (94b), Niína is subject (and not focus marked: waxa focuses Tóyen - see section 4.2.3), and has a penultimate H. The latter example is from the elicitation procedure.

26 As discussed above, nouns ending in -a in Norwegian are treated as D2 nouns in Somali.
(94) **Absolute and nominative case marking of a D2 noun**

a. Immikaan **Niíná** u sheeg-ay-ay.
   now.FOC.1SG person.name to tell-PROG-PST.1SG
   'I was telling Nina just now.'
   [niíná] < [ʹnːɑ] Nina (person name)

b. **Niína** waxay teg-tay **Tóyen**.
   person.name.NOM go-PST.3SG.F place.name
   'Nina went to Tøyen.'
   [niína] < [ʹnːɑ] Nina (person name)

**Genitive** There were two examples of genitive case marking in the spontaneous speech data. Recall from section 4.5.2 that genitive case is usually marked by shifting the H to the final mora. This is illustrated in (95) with the Norwegian place name *Tøyen*. In (95a), *Tøyen* is the object of the preverbal adposition *ku* 'in' (here coalesced with *ka* 'from' to the form *kaga*), and is therefore in the absolute case form. In (95b), it is a modifier in a noun phrase headed by *bibliyuteeggga* (which is also a Norwegian loanword), and thus takes genitive case marking.

(95) **Absolute and genitive case**

a. **Tóyen** baan kaga deg-ay.
   place.name FOC.1SG in.from get.off-PST.1SG
   'I got off (the subway) at Tøyen.'
   [tójen] < [ʹtœjn] Tøyen (place name)

b. **Bibliyutéeg**-ga Toyén **buu** ka shaqee-yaa.
   library-M.DEF place.name GEN from tell-PST.3SG.M
   'He works at the library at Tøyen.'
   [tojén] < [ʹtœjn] Tøyen (place name)

More data is needed to be able to say anything conclusive about case marking of loanwords, but based on the few examples presented here, it is at least plausible that Norwegian loanwords are case marked in the same way as native Somali nouns. The nouns that were nominative or genitive case marked are listed in table 12.11 in appendix B.

**8.3.6 Plural marking**

There was only one example of a noun with plural marking in the data. Recall from section 4.5.2 that Saeed (1999) describes seven declensions for plural marking in Somali, in addition to a few irregular patterns. In (96), the Norwegian word *kode* 'code' becomes *kuudayaásha*, which is as expected for words ending in -e in the singular form (for example, the native Somali noun *fure* 'key' is *furayaásha* in the definite plural form). Here, there is no H on the root, only on the plural suffix, which is the case also for native Somali nouns.
8.4 Other word classes

Most of the words in the dataset are nouns, but a few examples come from other word classes and will be discussed in this section. First, we’ll have look at verbs, then adjectives, followed by a section on words with uncertain word class, and a note on word class changes from Somali to Norwegian.

8.4.1 Verbs

The Norwegian verbs attested in this study were treated as the Somali -ee verbs of conjugation 2B (see section 4.5.2). As discussed in section 4.5.2, tone assignment to verbs in Somali depends on inflectional features. For example, the progressive form is characterized by an H on the mora immediately preceding the progressive suffix. The Somali -ee verbs use the infinitive stem in the progressive form: For example, yarée 'reduce.IMP' becomes yaréyn 'reduce.INF', and is then further suffixed, e.g. to yareýn-ay-naa 'reduce.INF-PROG-PRS.1PL'. As illustrated in (97), this is exactly what happens to the Norwegian verb passe 'take care of', which becomes baaseýnaynaa.

Similarly, the Norwegian verb fullføre 'finish' becomes fulforeýnayo (98) (note that the progressive form also can be used to mean immediate future (Saeed 1999 p. 89), as in (98)).
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(98) In=aan wax-aan baran-ay-o fulforeyín-ay-o iyo in that=1SG thing-M.DEF.1SG learn-PROG-SUBORD finish-PROG-SUBORD and part kale ma=ba aqaan-i. other NEG=really know-NEG
'I don’t really know if I will finish what I am learning or not.’
[fulforeinajo] < [ˈfuːˌfoːɾə] fullføre 'finish'

One of the words that was used as a verb in Somali is actually an adverb in Norwegian, namely videre, 'further'. This word also ends in -e, and is inflected as a Somali -ee verb: fidereynayaa 'I am continuing' (99).

(99) Laakin waan joojin-ay-aa oo shaqo ayan is-ka but DECL.1SG stop.INF-PROG-PRS.1SG CONJ work FOC.1SG self-about wadan-ay-aa, fidereyn-ay-aa. further.INF-PROG-PRS.1SG
 'But I will stop and I will just continue the work for myself, continue.'
[fidereinajaa] < [ˈviːdəɾə] videre 'further'

There are no traces of Norwegian tone in any of these examples, and tone is instead assigned in accordance with the native Somali patterns. There aren’t enough verbs in the dataset to say anything conclusive about the productivity of this pattern, but P01 provided the forms in (100), and seems to easily incorporate Norwegian verbs into Somali this way.

(100) More -ee verbs:
[bekeínajaa] < [ˈpeːkə] ‘point’
[kalaareínajaa] < [ˈkɭɑːɾə] ‘succeed’
[besookeínajaa] < [bə¹søːkə] ‘visit’

The verbs are listed in table 12.13 in appendix B.

8.4.2 Adjective

There was only one example of a Norwegian adjective used as a Somali adjective, namely forfirret 'confused', illustrated in (101). Here, the phrase ”anoo forfirret” consists of an independent pronoun an(i) (which is a noun, see Saeed 1999 p. 68) followed by an appositive relative clause (ibid. p. 215) oo forfirret. The literal translation is thus 'I, who am confused’.

(101) Anoo forfirret yacni ku wareersan wix-ii. 1SG.CONJ confused namely in confused thing-M.REM.DEF
'I am forvirret, namely confused.’
[forfirret] < [fɔɾ¹vɪɾət] forvirret 'confused'

Here, the H might be a way of preserving Norwegian tone/stress, but it is also in accordance with the native Somali patterns: Somali adjectives usually have a final or penultimate H (Saeed 1999 p. 105-106). This word is listed in table 12.14 in appendix B.
8.4 Other word classes

8.4.3 Uncertain word class

Some of the attested words are adverbs in Norwegian, but because Somali has very few adverbs (Saeed 1999 p. 124), it is not clear how best to analyze them. In (102), *videre* 'further’ appears again, but in this case it is not a verb (see 99 above). It might be argued to have an adverbial function, but it may also be a direct object. The HL of Norwegian accent 2 seems to be ignored, and instead, a final H is added. In (103), *fast* ‘permanent’ is used, and gets a penultimate H. It might also be argued to have an adverbial function, but alternatively, it is the object of the preverbal adposition *u* ‘in’.

(102) **Fiideré** ma sameyn kartid sannadka dambe.

    further NEG do.INF can.NEG year-M.DEF next

    ‘You cannot continue (lit. do further) next year.’

    \[fiiderê] < \[²ʋiːdɾə\] *videre* 'further’

(103) **Fásti** u ma shaqey-o.

    permanent in NEG work-NEG.1SG

    ‘I don’t have a permanent job.’

    \[fásti\] < \[¹fɑst\] *fast* ‘permanent’

The Norwegian adverb *så* ‘then’ is used quite a lot, sometimes in addition to the Somali equivalent *markaas*, which is a noun phrase. An example of this is illustrated in (104). *Sóo* gets the HL pattern.

(104) **Sóo** mar-kaas haddana waxaan wac-ay iskuul-ka

    then time-M.DEM again FOC.1SG call-PST.1SG school-M.DEF

    ‘Then I called the school again.’

    \[sóo\] < \[¹soː\] *så* ‘then’

The words that have uncertain word class are listed in table 12.15 in appendix B, and the contexts they occurred in are listed in section 12.3 in appendix B. These words may also be argued to be code-switches.

8.4.4 Change of word class

Some of the words fell into another word class in Somali than in Norwegian. An example was illustrated in (90) on page 86. There, the Norwegian verb *betyr* ’means’ was used as a noun and suffixed with a Somali possessive determiner, yielding *betír-kéeda* ’its meaning’. The Norwegian adverb *videre* ‘further’ was inflected as a Somali verb to yield ’continue’, as illustrated in (99) on 90.

These examples illustrate morphological productivity and linguistic creativity in Somali, but they also illustrate that word classes are language-specific, as argued by e.g. Haspelmath (2012). Terms like *verb* and *noun* here refer to word classes that are defined based on morphological and syntactic criteria that are specific to Norwegian or Somali. For example, some
Norwegian adjectives were used as nouns in Somali. An example is *koselig* 'nice, cozy'. Because Somali adjectives do not occur independently (but rather attributively in noun phrases or as complements of the copula verb, see Saeed 1999 p. 104), *koselig* is used as a noun in (105), where it is focused by *baa*.

(105) **Adjective → noun**

```
Kúusheli bay ahayd!
nice FOC.3SG.F COP

'That was nice (niceness)!

[kúuʃelî] < [ˈkuːʂɭi] *koselig* 'nice, cozy'
```

Words that changed word class are listed in their respective tables (12.1-12.14) in appendix B, and the contexts they occurred in are listed in section 12.4 in appendix B. Note that because word class is defined on language-specific criteria, a Norwegian noun and a Somali noun cannot be equated in any straightforward way. One could therefore argue that all of the Norwegian words changed word class when borrowed into Somali.

### 8.5 Words of possible English origin

As mentioned in section 7.3.1, some words could have been borrowed from either English or Norwegian. These were discarded from the analysis, but a few examples are provided in table 12.16 in appendix B.

### 8.6 Chapter summary

In this chapter, we have seen that in many Norwegian loanwords, tone assignment was in accordance with the native Somali patterns. Word class, inflectional class, inflectional form, syntactic context and discourse factors all play a role in tone assignment in Somali. Some words were attested in various contexts, and showed variation in accordance with these factors. But there were also some examples of preservation of Norwegian input tone/stress in violation of the native Somali patterns. In these cases, the tonal contrast between Norwegian accent 1 and accent 2 was lost. Rather, the syllable corresponding to the one with primary stress in Norwegian was assigned an H to the first or only mora. Surprisingly, some words had two high tones, in violation of the culminativity that is usually ascribed to the H in Somali. The results described here will be discussed further in the next chapter.
9 Discussion

The main research questions in this study were presented in chapter 6 and are repeated here in (106).

(106) Research questions
How are Norwegian words tonally adapted when borrowed by native Somali speakers?
   a. If tone assignment is in accordance with the native Somali patterns, which patterns
      are productive?
   b. If Norwegian tone is preserved in loanwords, how are they interpreted in the prosodic
      system of Somali?

The two main possible outcomes in (106a) and (106b) are based on two competing predictions
from previous research, discussed in chapter 3. In chapter 8, we saw that both of these possi-
bilities are attested in the present study. Certain details of the analysis were discussed there.
In the present chapter, the results will be discussed in light of previous research, with refer-
ence to the speakers’ bilingualism and the word-prosodic typological profiles of Norwegian
and Somali. Preservation of Norwegian prosodic properties is discussed in section 9.1. The
words that had two high tones are discussed in section 9.2, and different explanations for the
second tone are considered. Tone assignment in accordance with the native Somali patterns is
discussed in section 9.3. Some directions for future studies will be suggested along the way.

9.1 Preservation of Norwegian prosodic properties

In sections 8.1 and 8.2, we saw that in some Norwegian loanwords in this study, an H was as-
signed to a location too far away from the right edge of a word to be in accordance with the
native Somali patterns, but which coincided with the location of primary stress and tone in
Norwegian. These cases were interpreted as preservation of prosodic properties of the Nor-
wegian input form. In section 9.1.1, two questions will be asked. The first is what exactly is
preserved, e.g. stress, tone, or a more general type of perceptual prominence in the sense dis-
cussed in section 2.4. The second is how this is interpreted in the prosodic system in Somali.
In section 9.1.2, two more questions are discussed, namely when it is preserved, and why.

9.1.1 What is preserved, and how?

Recall from chapters 2 and 5 that Norwegian can be analyzed as a language with tone and
stress, where the former is dependent on the latter, because the tonal contrast only surfaces on
syllables with primary stress. This means that when a Somali H is assigned to a syllable corre-
sponding to one with primary stress in Norwegian, it can either be a way of preserving stress
or tone. We saw in chapters 2 and 4 that Somali can be described as a language with tone, but
no stress (by the criteria set up in section 2.3.3). Because Somali does not have stress, we may conclude that it is the other option that is preserved, i.e. tone.

However, the Norwegian tonal contrast seems to be lost in these cases, so this approach is not entirely satisfactory either. We saw in sections 8.1 and 8.2 that the syllable with primary stress in Norwegian had either an H or an HL in Somali. The choice depended on the vowel quantity in the relevant syllable, rather than the tone in the Norwegian input. Somali also has the option of an LH contour on long vowels, which may be realized as MH or a long H (see chapter 4). This is not found in any of the unambiguous cases of preservation of Norwegian stress/ton.

There are two main possibilities here. Either the speakers do not master the tonal contrast in Norwegian, possibly because they do not perceive the difference between the two tones. Or they do master it, and the tonal adaptation is a result of the properties of Somali prosody. We will look at these two explanations in turn, before the role of vowel quantity is discussed. Some possible reasons why LH is not found will also be suggested.

**Adaptation reflects L2 Norwegian** The functional load of the tonal contrast in Norwegian has been argued to be rather low (Haugen 1967). It is possible that the Somali speakers in this study do not master the tone system, but it would be beyond the scope of this thesis to describe their L2 Norwegian. In future studies, however, one could look into how Somali speakers perceive and produce the Norwegian tonal contrast.

As discussed in section 4.6, the tone system in Somali is syntagmatic (i.e. the question is *where does the high tone go?*). In Norwegian, stress is syntagmatic, but tone is paradigmatic (i.e. the question is *which tone does a given TBU get?*) (section 5.7). Because the paradigmatic dimension is irrelevant in Somali, it is possible that Somali speakers do not pay attention to it in Norwegian, and therefore that they do not perceive the difference between the two tones. Moreover, the phonetic realization of the two tones in Norwegian can be very similar (see section 5.6.3), and it has been argued that the difference between the two really is one of timing (HL* vs. H*L) rather than one of identity (L vs. HL) (see section 5.6.2). It is therefore possible that they are similar enough for Somali speakers to perceive them as the same.

In order to test this, one could conduct perception experiments, e.g. by presenting minimal pairs of Norwegian words and asking speakers to judge whether they are the same or different. If Somali speakers do not perceive the difference between the two tones in Norwegian, then we may conclude that the adaptation patterns reflect their L2 Norwegian knowledge, and that nativization happens during perception rather than production.

It is also possible that speakers do perceive the tonal contrast, but that they do not produce it. One could therefore compare the tones in Norwegian loanwords borrowed when speakers are in Somali-mode, to tones in the same words uttered when speakers are in Norwegian-mode (see section 3.1.1 for more on bilinguals’ language modes). If it turns out that speakers do perceive, but do not produce the tonal contrast in Norwegian, then we may conclude that
9.1 Preservation of Norwegian prosodic properties

the adaptation patterns reflect their L2 Norwegian production. If they do produce the tonal contrast in Norwegian, then the adaptation patterns likely reflect their Somali L1 language system, and we may conclude that nativization happens during L1 production. This will be further discussed next.

**Adaptation reflects L1 Somali**  If Somali speakers do master the tone system in Norwegian, adaptation does not happen during L2 perception, but during L1 production, i.e. when speakers are accessing a word in their Norwegian lexicon and adapting it by the rules of their Somali grammar.

If speakers do perceive the L of accent 1 as a low tone, we need another explanation for why it becomes an H in Somali. One possibility here is that what is preserved, is a more abstract form of *perceptual prominence*, i.e. a “property by which linguistic units are perceived as standing out from their environment” (Terken 1991 p. 1768), regardless of what kind of phonological category generates this perception. It might be argued that the H in Somali is more prominent than the L (which even might be argued to be a ”default” realization of a toneless mora, see section 4.5). In other words, it might have been the perceptual prominence of syllables with primary stress and tone in Norwegian (i.e. the perception of these units as standing out from their environment) that was preserved. The way this was done, was by the phonological means available to the speakers, i.e. the assignment of an H.

**The role of vowel quantity**  As described in section 8.1, vowel quantity matters for tone assignment to Norwegian loanwords. Recall from chapters 4 and 5 that both languages have a vowel quantity contrast. In Norwegian, this is only found on stressed syllables, while in Somali, there are no restrictions. In section 5.6.3, it was pointed out that although the two tones in the HL melody in Norwegian may be linked to two different syllables, most of the fall from H to L is realized during the first (primary stressed) syllable. Moreover, the TBU in Somali is the mora. Therefore, it was hypothesized in section 6.3.1 that when Norwegian words are borrowed by Somali speakers, the two tones (H and L) may be linked to two moras of the same bimoraic syllable (corresponding to the one that has primary stress in Norwegian).

However, there is a difference in moraic structure in the two languages: Coda consonants may be moraic in Norwegian, but only vowels are moraic in Somali. Because a long vowel (i.e. two moras) is needed in order to realize a contour (i.e. two tones) in Somali, it is possible that there is a difference in tonal adaptation strategy based on the vowel quantity of the syllable with primary stress in Norwegian. This was represented as shown in (107) (a repetition of 51 on page 59).
We saw in sections 8.1 and 8.2 that this prediction was borne out by the data, but not only for the HL of accent 2. The exact same pattern was found for the L of accent 1. Moreover, vowel quantity was sometimes different in the input and the output, and it was the latter that mattered for the choice between H and HL. The outcome may therefore be represented as in (108).

(108)  
\[
\begin{array}{c|c|c|c}
\text{Norwegian} & \text{Somali} \\
\hline
\sigma & \sigma & \sigma & \sigma \\
\text{C V C V} & \text{C V C V} & \text{C V C V} \\
\end{array}
\] 

Norwegian or Somali

Here, the tonal tier in the Norwegian input form is removed because the tonal contrast in Norwegian is lost, as discussed above. Instead, an H is assigned to the first or only mora of the relevant syllable (i.e. the syllable corresponding to the one that has primary stress in Norwegian, the initial one in these illustrations). If this syllable is monomoraic (i.e. has a short vowel in the Somali output form), it carries an H. If it is bimoraic (i.e. has a long vowel in the Somali output form), it carries an HL.

Why not LH?  Bimoraic syllables in native Somali words may also have an H assigned to the second mora, resulting in an LH pattern on that syllable (e.g. geēs ’direction’, see section 4.5). This may be realized phonetically as MH or simplified to a long H. It would therefore have been possible to preserve prosodic properties of the Norwegian input this way. Examples of this would be e.g. *Hoōnefos or *Hōōnefos. However, this strategy is not found in the present data. One possibility is that Somali speakers master the tonal contrast in Norwegian, but that they have developed and conventionalized a rule for adapting Norwegian loanwords this way (i.e. by assigning an H to the first or only mora of the syllable corresponding to the one that has primary stress in Norwegian).

Another possibility is that Somali speakers do not perceive the tonal contrast in Norwegian, as discussed above. The phonetic realization of the two tones may be very similar (see section 5.6.3). Though they can be described as phonologically L and HL, both may be realized with a fall, in which case the difference is in the timing of the lowest \( F_0 \) value. However, the phonetic realization likely varies with context, e.g. voicing in the segments. More research is needed on the phonetic variation of the Norwegian tones in order to discuss whether this is a likely explanation. The main point here is that this variation is not necessarily perceived by Somali speakers in terms of the phonological categories that are relevant in Norwegian, i.e. accent 1 vs. accent 2.
The possibility that Somali speakers perceive both accent 1 (L) and accent 2 (HL) as HL may be investigated in future studies. It is also possible that both accent 1 and accent 2 are perceived as H when the vowel is short. In this case, it may be the properties of Somali prosody (i.e. the fact that a long vowel/two moras are needed in order to realize a contour, i.e. two tones) that influence the way Somali speakers perceive the tonal contrast in Norwegian.

9.1.2 When is it preserved, and why?

Previous research on loanword prosody in other languages suggests that the likelihood of prosodic preservation is lower if the recipient language has strong restrictions on stress or tone (see chapter 3). In chapter 6, it was suggested that the same thing might apply to Somali, where tone assignment is predictable from grammatical features (see chapter 4).

This hypothesis is partially borne out by the data. Many loanwords had only one H, and one that abided by the Somali rules (these will be discussed further in section 9.3). But we have seen that speakers also sometimes opt to preserve prosodic properties of the input form even when it violates the native Somali patterns. This option is therefore not completely excluded although there are strong restrictions on the distribution of the H in native Somali words.

The words that have only one H, which is a way of preserving Norwegian tone/stress, are listed in table 12.1 in appendix B. None of them are suffixed. For example, there are words like [bulitikaamer] < [pul̪ʼɔtiːˌkɑmɾ̩] 'police station' (where the H in the output occurs on the syllable corresponding to the one with primary stress in Norwegian). However, there are no words in the data of the type *bulitikaamer-ka, with a Somali suffix added, but no H in accordance with the native Somali patterns (i.e. an H on the penult or final mora of the stem).

There are two points to be made about this. First, because the words in table 12.1 aren’t morphologically incorporated, they could be classified as single word code-switches rather than loanwords (see discussion in section 3.1.2). Second, when a Somali suffix is added, there is always an H on the penult or final mora, in accordance with the native Somali tone patterns. Morphological incorporation therefore seems to lead to nativization. A partial answer to the "when” question is thus that Norwegian tone/stress may be preserved if a word does not carry a Somali suffix.

However, there are also words that have two high tones, where the first is a case of preservation of Norwegian tone, and the second possibly is assigned by the Somali rules. These are the words listed in table 12.2-12.3 in appendix B. The second tone in these words will be discussed in section 9.2. For now, the important thing to note is that adding a Somali suffix does not necessarily block the possibility of preserving a Norwegian tone. Both strategies may be used in different locations of a word, as in ságsbehandlér-ka 'case worker-M.DEF’ < [%saːks- bɔ̱ hænd[a̱]. This happens even though the H in Somali is said to be culminative (meaning that there is maximum one H per word, see section 4.5 and discussion in section 9.2.2).

Previous research also suggests that the likelihood of prosodic preservation is higher when
language contact is more intimate. As discussed in chapter 6, it is possible that the same thing applies here, because the speakers are bilinguals living in Norway, and use both Norwegian and Somali every day. This may provide an answer to the question of why input prominence may be preserved. The words with two high tones possibly demonstrate the interaction of two language systems in the bilingual mind, where prosodic properties of the Norwegian form may be preserved as long as a second H also ensures that the word conform to the Somali patterns.

In order to test whether the language contact situation is a likely explanation, we would have to study two comparable groups. In future studies one could for example compare speaker groups in the diaspora to speaker groups living in the Horn of Africa, either by looking into loanword adaptations, or using wug-tests with nonsense words.

9.2 Two high tones

As discussed in section 8.2, some words had two high tones, in which case the first was a way of preserving Norwegian tone/stress. The second tone will be discussed in this section. First, some possible interpretations of this tone are discussed, i.e. whether it is assigned by the Somali rules or it is a way of preserving the Norwegian H% (9.2.1). Then these words will be discussed in light of the culminativity that is usually ascribed to the H in Somali (9.2.2).

9.2.1 Where does the second tone come from?

In all of the words with two high tones (see tables 12.2 and 12.3 in appendix B), the second H is assigned to either the penultimate or the final mora of the stem. Because Hs usually are assigned to one of these locations in native Somali nouns (see section 4.5), this second tone is in accordance with the native Somali patterns. In a word like ságsbehandlér-ka 'case.worker-M.DEF', the final H may be assigned because the word is treated as a Somali noun of D3 (see section 4.5.2).

Another possibility is that it is a way of preserving the Norwegian H%. Recall from section 5.6.1 that the H% has been analyzed as a boundary tone that marks the right edge of the so-called accent phrase. The left edge of the accent phrase is marked by a syllable with primary stress and tone. The right edge is either the syllable immediately preceding the next primary stress, or the utterance-final syllable if there is no subsequent primary stressed syllable. When a word is uttered in isolation, the H% therefore falls on the final syllable of that word. If the word also has focus marking, the H% is realized on an even higher pitch (marked as Hfoe% in section 5.6.1).

It is possible that this H% is interpreted by Somali speakers as a lexical tone, in which case it may be part of their L2 Norwegian lexical representation of a word. But because the location of the H% varies with context, and the accent phrase cuts across word boundaries, it is also possible that it is abstracted away, at least for high frequency words that speakers have encountered in different prosodic contexts.
When the second tone is assigned to the penultimate mora, as in fóolkahayskúul-ka ’folk-high.school-M.DEF’, it is less likely that it is a way of preserving the Norwegian H%, because there usually is a clear rise up to this H% rather than a fall (see figures in 5.6.3). But it is possible that the H% is preserved in the same way as accent 1 and accent 2, i.e. as H if the vowel is short, and HL if the vowel is long (see section 9.1). However, that would not explain cases like drífsléder < [¹dɾiftsˌleːdɾ] ’operations manager’ and Sáandeviíka < [²sɑnˌvǐːkɑ] (place name). Here, the second tone appears on the penultimate syllable, which the H% in Norwegian never associates to.

In these two latter cases, the H falls on the syllable that has secondary stress in Norwegian, so it is possible that this is what is preserved here. But as we saw in section 5.5.2, syllables with secondary stress in Norwegian are not tone-bearing. There are no examples of words where preservation of secondary stress as a Somali H is the only possible explanation. Moreover, there are several words where secondary stress is definitely not preserved this way (as in ságsbehandlér < [¹sɑksbəˌhɑndləɾ] ’case worker’ and Lóonekaasá-da [²loːnəˌkɑsɑ] ’institution name’). The syllables that have secondary stress in Norwegian do not have an H in Somali in these cases.

Because it seems to be the case that the addition of a Somali suffix leads to the assignment of a Somali tone (see section 9.1), I will argue that at least for the suffixed words, the second tone is best described as a Somali tone (e.g. Lóonekaasá-da, ságsbehandlér-ka, fóolkahajskúul-ka, see table 12.2 in appendix B). It is still possible that in some words, the second tone is a way of assigning a Somali H while simultaneously preserving the H%, i.e. satisfying both languages. However, there are words where only Norwegian stress/tone is preserved without a second tone (see section 9.1, and table 12.1 in appendix B). Therefore, preservation of the H% is at least not a regular process. Moreover, there are no examples where the final H necessarily is a way of preserving the Norwegian H%.

It is concluded here that the second H in the words with two high tones is assigned by the Somali rules. If this analysis is correct, these words illustrate the use of two different strategies at different locations inside the same word.

### 9.2.2 The culminativity of the Somali H

What makes the words in this category especially puzzling, is that it is not supposed to be possible to have more than one H per word in Somali. As mentioned in chapter 3, loanword adaptations are like natural wug-tests and allow us to observe the rules or processes that are ac-

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27 An example of this would be e.g. *fideregóone < [²fidɾɛˌgoːnə] ’high school’, where the second tone appears on the antepenultimate mora. This word instead has a final H, i.e. fideregooná-ha.

28 As discussed in chapter 4, there are few cases where a final H is the only option, due to the nouns that get exceptional tone assignment. A final H is usually found on feminine nouns of D1. There are, however, some exceptional masculine nouns with a final H, i.e. the D3 nouns. The best test cases are bare D2 nouns, for which the choice between final and penultimate depends on both case marking, focus marking and position in the sentence. See section 4.5.2 for details.
tive in a language. If the one tone per word rule is violated in loanwords, one question worth asking is what consequences this has for the assumption that the H is culminative in the first place. Some possible explanations for the words with two high tones will be discussed in this section.

**Tone assignment to compounds** Most of the words with two high tones are compounds in Norwegian. As described in section 5.5.2, only the first part of a Norwegian compound has primary stress and thus a tone-bearing syllable. The following parts have secondary stress, but syllables with secondary stress are not tone-bearing. In other words, even compound words have only one tone in Norwegian (though they may also carry the H%, discussed above). As discussed in section 4.5.3, the same thing applies to Somali: compounds only have one H, but here it is the final part of the compound that is tone-bearing. So even if the speakers have analyzed these Norwegian words as compounds, neither the Norwegian input nor the Somali rules alone can explain why there are two high tones inside the same word.

**Tone assignment to native Somali simplex words** Another possibility is that the speakers have analyzed these words as simplex words. Native simplex words in Somali usually have only one or two syllables. Therefore, one possibility here is that when a speaker is confronted with a word with more than two syllables (e.g. [sɑːksbəˌhɑndləɾ] ‘mother tongue’), there is nothing in the native phonology (of simplex words) that prevents him/her from assigning two high tones. The H may be culminative in simplex words if they have one or two syllables, but words with more syllables are underdetermined by the native data.

However, some of the Norwegian words that had two high tones only have two syllables, e.g. múshmóol < [μuːʂˌmoːl] ‘mother tongue’. Moreover, although simplex native Somali words usually have only one or two syllables, established loanwords may have more, and still only one H (e.g. baasabóor ‘passport’ from English, or turjubaán ‘interpreter’ from Arabic). Complex native words may also have more syllables, resulting from derivation or compounding, or a combination of the two. Banti (2016) provides the example dhaqdhaqqaaq-kacaanëed-ka ’the revolutionary movement’. Both parts of this compound are derived forms. Here, the stem has six syllables (nine moras), and there is still only one H. When speakers are presented with a Norwegian word with more than two syllables, and their knowledge of native simplex words don’t provide any restrictions, then their knowledge of longer, complex words would be expected to guide them instead. But because even such words only have one H in Somali, the words that have two Hs on the same stem is still a violation of the Somali pattern.

**Lack of nativization** One possibility is that the words that had two high tones aren’t properly nativized. This happens to the segmental phonology as well. For example, Norwegian has a voiced labiodental approximant [ʋ], and Somali does not. This may be nativized to a Somali voiceless labiodental fricative [f], but this does not necessarily happen: the two variants
9.2 Two high tones

[biriřad] and [biriʁaad] (< [pri1vɑː:t] 'privat’) were produced by the same speaker. When
speakers are in bilingual mode (see section 3.1.1), both languages are activated, although to
different degrees. So even if Somali was the base language in these conversations, the Nor-
wegian language was more or less activated all the time, allowing Norwegian words to be
borrowed in the first place. This may include more or less influence from speakers’ L2 Nor-
wegian phonology, resulting in non-nativization of segments like [v]. Simultaneous activation
of the two languages may allow for preservation of Norwegian prosodic properties in one lo-
cation while assigning a Somali tone in another.

Is the Somali H really culminative? As discussed in section 4.5.4, there are even native
Somali words that make the one tone per word generalization somewhat simplistic. First of
all, some proper nouns may have two high tones, like Bóoramé (place name) (Saeed 1999
p. 22). Second, there are certain determiners that have an H, and when these are suffixed to
nouns, both the noun stem and the determiner keep their H, as in niŋ-kíi (man-M.REM.DEF)
'the man’. When two determiners are suffixed to the same noun, it may even result in three
high tones, like in afáfdáy-díi (wife-F.POSS.1SG-F.REM.DEF) ’my wife’ (Saeed 1999 p.
187).

Moreover, words with two high tones may also result from a type of obligatory coales-
cence which was discussed in sections 4.2.3 and 4.5.4. This happens when a noun ending in a
vowel (or a determinative ending in a vowel) is followed by the focus marker báa and a clitic
pronoun. An example from Banti (2016) was illustrated in (43) and is repeated here in (109).

(109) Coalescence

a. Soór-ta   báa=uu  keen-ay.   →Soórtúu keenay.
   food-F.DEF  FOC=3SG.M  bring-PST.3SG.M
   'He brought the food.’

b. sóór-ta   uu    keen-aý  →soórtuu keenaý
   food-F.DEF  3SG.M  bring-PST.3SG.M
   'the food he brought’

In (109a), the only thing left of the focus marker báa is its H (-tuu). This can be compared to
(109b), which is a relative clause without any focus marker, where the resulting form -tuu is
low-toned.

It was mentioned in section 4.5.4 that Green and Morrison (2016) have analyzed some of
the two-toned words in terms of a mismatch between the prosodic word and the grammati-
cal word, with reference to known problems with finding sound definitions of what a word is
loanwords, there are two high tones assigned to the same stem. Although words like afáfdáy-
díi and soórtúu above are complex, they illustrate that it is possible to have more than one H
on the "surface” realization of words in Somali. It is possible that the culminativity ascribed
to the H is not very real or important to the speakers themselves, but rather a simplification constructed by linguists. This finding should therefore inspire more work on the properties of Somali prosody. Another Hyman quote is suitable here, this time regarding the explanatory adequacy of simple analyses:

[...], no matter how nice one’s analysis turns out to be, unless there is some empirical justification the possibility still remains that the analysis is a mere formalism without ‘psychological reality’.

Hyman (1970 p. 6)

### 9.3 Somali morphological tone assignment

We saw in sections 8.2 and 8.3 that tone may be assigned to Norwegian loanwords based on the native Somali rules, either alone or in addition to preservation of Norwegian tone/stress. In most cases, the location of the H (or one of them, in the case of words with two high tones) was predictable from grammatical features, but in some cases, an irregular (i.e. infrequent) pattern applied. In this section, these results will be discussed in more detail.

#### 9.3.1 Declension 1 and 3

Some nouns were treated as D1 nouns, and thus had a penultimate H when masculine (e.g. kiteeerin-ka < [kui'te:riŋ] 'receipt'), and a final H when feminine (e.g. tishdag-ta < [tis'dag] 'Tuesday’) (see table 12.4-12.5). There were, however, several nouns that were masculine and had a final H, e.g. birivaad-ka < [pri'va:t] 'private'. Conversely, there was also one feminine noun that had a penultimate H: naafta < [nɑːv] (institution name). The former were classified as D3 nouns (table 12.7-12.8). Recall from section 4.5.2 that singular nouns of D3 in Somali are exceptional in that they are masculine and have a final H. This pattern is therefore an irregular one in Somali, but not completely unattested. Feminine nouns with a penultimate H are not discussed by Hyman (1981), whose declensions were chosen as a basis for the discussion in section 4.5.2. There are, however, a few exceptional native Somali nouns like this, e.g. numerals such as säddexda 'three-F.DEF'. The Norwegian words that showed this pattern were classified as D1 nouns with irregular tone assignment.

As discussed in chapter 2, loanword adaptations are like natural wug-tests in that they allow us to see what kind of rules and processes are active in a language. One question that arises here is why even irregular patterns can be at least partially productive. The irregular feminine noun with a penultimate H was a proper noun (naafta < [nɑːv]), and some proper nouns have irregular tone assignment even in Somali: the female names Deeqa and Hòdan have a penultimate H (Saeed 1999 p. 67). There were, however, masculine nouns with a final H which were not proper nouns. One possibility here is that there is something about the Norwegian input that can explain the different tone assignment strategies, i.e. that there is something about [adou'kɑːt] 'lawyer’ that gives it a penultimate H in Somali, and something
about [pri¹ːxɑː:t] ‘private’ that gives it a final H, although both are masculine (advukáad-ka and birivaad-ka). No such patterns emerge from the present data, and this question will be left for future studies.

9.3.2 Declension 2

There were also several Norwegian loanwords that were treated as Somali D2 nouns. These typically included nouns that either ended in -e ([ɛ]) or -a ([ɑ]) in Norwegian, such as heelsá-ha < [ʰɛɭsɔ] ‘health’ and Lóonekaasá-da < [ʔɔː:nəˌkɑsə] (institution name). But some of these words ended in two consonants in Norwegian, in which case an -e was added, possibly to avoid a consonant cluster in the coda, which is prohibited in Somali (see section 4.3). As discussed in section 8.3, this was interpreted as a suffix rather than an epenthetic vowel: helg-é < [¹hɛɭɡ] ‘weekend’. These words showed tonal alternations which are typical of D2 nouns, which have the -e or the -o suffix (see section 8.3.2). There are to my knowledge no native Somali nouns ending in -e that do not belong to D2 and show these alternations. The -e in the Norwegian loanwords also undergoes vowel assimilation, e.g. with the definite article (helg-á-ha), which is a regular process for nouns of this declension.

Based on previous research on loanwords from other languages in Somali, we would expect word-final consonant clusters to be avoided by inserting an epenthetic vowel, as in isboorti < sport. Alternatively, the final consonant can be deleted, as in rikoor < record (Mioni 1988). These strategies are also found with Norwegian loanwords, e.g. bestémti < [beʃ'temt] ‘definite’. But only when the derivational suffix -e is added, as in tolk-é, does the noun fall into D2, and show corresponding tonal behavior. Possible questions for future research are when the two different strategies are used, and why words are treated differently.

Conversely, some words ending in -e in Norwegian had this -e removed, in which case they were treated as D1 nouns instead. An example is [¹nɔʂk] ‘Norwegian’, which is found as both [nɔʃk-a] (D1) and [noʃk-á-ha] (D2). This possibly illustrates a form of back formation: The -e in Norwegian may be perceived as the Somali suffix -e, and thus it may be removed. Here it is worth asking when and why the two different strategies are used, i.e. why some words are treated as D2 nouns ending in -e, and others undergo back formation and are treated as D1 nouns. More data are needed to shed light on these issues.

9.3.3 Verbs

As discussed in section 8.4, the Somali suffix -ee seems to be used regularly to coin Somali verbs from Norwegian words. Examples include fulforeýnayo < [²fʊɭˌføːɾə] ‘finish’ and fidereýnayaa ‘continue’ < [²ʋiːdɾə] ‘further’. In these examples, the infinitive stem (ending in -eýn) of -ée verbs is used. Saeed (1999) describes the -ee suffix as ”very productive” (p. 136). It is used to coin new verbs from Somali nouns and adjectives, e.g. bir ‘iron’ - birée ‘make into iron’ and yár ‘small’ - yarée ‘make smaller, reduce’. In the Norwegian loanwords, the suffix
seems to be used as a general verb-formation suffix, used to nativize new words. Although this suffix is very productive in Somali, another strategy is reportedly used by Somali speakers in London. Here, compounding with the verb *garee* (described as a *verb maker* by Zorc and Osman 1993) is used frequently, as in *print-garee* and *edit-garee* (Martin Orwin, p.c. 2016). This strategy was not found in the present data, except for one word which may be borrowed from English, namely *stob-garee* ’stop’ (possibly from Norwegian [²stɔpə] (id.)).

In future studies, one could see whether there are any limitations on the productivity of the suffix *-ee*, or whether it can be applied to any novel verbs, e.g. in a nonsense-word test. One could also try to elicit full paradigms of the verbs that are treated this way, to see whether they behave like the native Somali *-ee* verbs in other combinations of tense, aspect and mode.

### 9.3.4 Morphological productivity in Somali

Four main questions emerge from what we have seen in this section. First, why are some irregular tone assignment patterns productive, and when do they apply? Second, when is an epenthetic or postthetic vowel used to break up consonant clusters (resulting in D1 nouns), and when is derivation used (resulting in D2 nouns)? Third, why are some Norwegian words ending in *-e* treated as D2 nouns, while others have their *-e* deleted and are treated as D1 nouns? And fourth, are there any limitations to the productivity of the Somali *-ee* suffix?

All of these issues can be explored in future loanword studies or nonsense word tests. One could compare the results from Somali speakers living in Norway with Somali speakers in other communities, to see whether different strategies are used by different speaker groups or for different source languages.

### 9.4 Chapter summary

The three main types of outcomes attested in this study were discussed in this chapter: preservation of Norwegian prosodic properties, Somali morphological tone assignment, and words with both strategies in different locations of the same word, resulting in two high tones.

Regarding the first strategy, it was argued that what is preserved is the general *perceptual prominence* of syllables with primary stress and tone in Norwegian. The way this is preserved, is by assigning a Somali H to the first or only mora of the corresponding syllable in the Somali output form. This resulted in an H/HL contrast depending on vowel quantity. It would also have been possible to have an LH or a long H, but this is not attested in the present data. A possible explanation here is that it has to do with how Somali speakers perceive the tonal contrast in Norwegian.

The words with two high tones are surprising because native Somali words usually have only one. Two main explanations for this pattern were discussed: either it suggests that the *one H per word* generalization usually described for Somali is a simplification, or it demonstrates the interaction of two language systems in the bilingual mind.
Regarding Somali morphological tone assignment, we saw that even irregular or infrequent tone assignment patterns are at least partially productive. There was some flexibility and variation in word class and inflectional class assignment (and as a consequence, tone assignment). This study is the first of its kind, and is primarily of an exploratory and descriptive nature. A lot of questions emerged when discussing the results, and some directions for future research were suggested along the way.
10 Summary

The main goal of this study was to describe how Norwegian loanwords are tonally adapted when borrowed by Somali speakers. The material presented here was collected during fieldwork in Oslo, and consists of spontaneous speech from nine native Somali speakers, in addition to some elicited forms. This is the first linguistic study of the Somali language as it is spoken in Norway, and this thesis therefore introduces a new topic. It also contributes to already existing fields, including research on bilingual competence and loanword adaptations. A property-driven approach to typology (as advocated by Hyman 2009) was adopted when comparing Somali and Norwegian. In chapter 3, it was argued that such an approach may provide more accurate predictions and explanations for the choice of loanword adaptation strategies found in different languages.

In chapter 6, two competing hypotheses were presented. The first said that because the distribution of tone in Somali is restricted, Norwegian tone was expected to be ignored in loanwords when its location violated these restrictions. Somali contrasts a high tone (H) and a low tone (L). The tone system can be described by referring to the H only, and the distribution of the H is governed by word class, inflectional class, inflectional form, syntactic context and discourse factors. Most of the loanwords in the present study showed a tone pattern that was in accordance with these restrictions.

The second hypothesis was that Norwegian tone and stress could be preserved when words are borrowed by Somali speakers, because of the intimate language contact and high degree of bilingualism involved. In some words, an H was found in a location where it violated the native Somali tone patterns. In these cases, the H occurred on the syllable corresponding to the one that has tone and stress in Norwegian. This syllable was assigned an H to the first or only mora, regardless of the Norwegian input tone (accent 1/accent 2). The tonal contrast in Norwegian was therefore lost. Instead, it was arguably the perceptual prominence (see chapter 2) of this syllable that was preserved. This was done with the means available to Somali speakers, i.e. the assignment of an H. All of the words of this type lacked a Somali suffix and could be classified as single-word code-switches rather than loanwords. Adding a Somali suffix seems to lead to the assignment of an H whose location conforms to the native Somali patterns.

A third and more surprising outcome was also found: In some cases, both of these adaptation strategies were used, but in different locations inside the same word. This pattern violated the culminative property which is usually ascribed to the Somali H, i.e. the generalization that words have maximum one H. Examples of the different strategies are listed in (110).
Examples of attested strategies

a. Somali morphological tone assignment
   [helsá-ha] < [²hɛɭsə] helse  ‘health’

b. Preservation of Norwegian prosodic properties
   [hóonefos] < [²høːnəˌfɔs] Hønefoss (place name)

c. Two high tones
   [ságsbehandlér-ka] < [¹sɑːksbəˌhɑndɭəɾ] saksbehandler  ‘case worker’

The finding that Norwegian loanwords may have two high tones raises questions about the way the prosody of Somali is described. These words may indicate that the culminativity ascribed to the Somali H is an artifact of the linguistic analysis, and not very real to the speakers. They may also be the result of simultaneous activation of two language systems in the bilingual individual. The use of two strategies inside the same word illustrates how two language systems may interact in the bilingual mind. A question for further research is whether the words with two high tones are the result of the bilingualism of the particular speakers in this study, or an indication that the H in Somali actually is not culminative in the first place. In order to explore these issues further, we need more work on the tone system in Somali, in combination with data from other speaker groups with no knowledge of Norwegian.
References


REFERENCES


Appendix A: Consent form

Norwegian version

Forspørsel om deltagelse i forskningsprosjektet
Språk hos somalier i Oslo

Bakgrunn og formål
Dette prosjektet er en masteroppgave ved Universitetet i Oslo. Målet er å kartlegge språkkunnskaper og språkbruk hos somalier som bor i Oslo. Siden du snakker somali og norsk blir du spurrt om å delta.

Hva innebærer deltagelse i studien?

Hva skjer med informasjonen om deg?

Prosjektet skal etter planen avsluttes 15.05.2017, og datamaterialet vil da anonymiseres. Hvis du samtykker til det, vil kontaktinformasjonen din oppbevares i to år etter prosjektslutt (til 15.05.2019) slik at du kan kontaktes om deltagelse i senere studier.

Frivillig deltagelse
Det er frivillig å delta i studien, og du kan når som helst trekke ditt samtykke uten å oppgi noen grunn. Dersom du trekker deg, vil alle opplysninger om deg bli anonymisert.

Dersom du ønsker å delta eller har spørsmål til studien, ta kontakt med masterstudent Nina Hagen Kaldhol (nhkaldhol@gmail.com), veileder Sverre Stausland Johnsen (stausland.johnsen@iln.uio.no) eller veileder Hanne Gram Simonsen (h.g.simonsen@iln.uio.no).

Studien er meldt til Personvernombudet for forskning, Norsk samfunnsvitenskapelig datatjeneste AS.

Samtykke til deltagelse i studien
☐ Jeg har mottatt informasjon om studien, og er villig til å delta.
☐ Jeg kan kontaktes igjen med forespørsel om deltagelse i senere studier.
☐ Jeg samtykker til at opplysninger om språk og bosteder publiseres i anonymisert form.

SIGNERT AV PROSJEKTDELTAKER, DATO

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Warqadda tan waa mid la ku ku waydiinayo in aad ka qayb gali kartid mashruuc cilmibaadhis ah

Cilmibaadhistu waxa ay ku sahabsantahay afka soomaliga, Oslo
Waxa la qoraya cilmibaadhis heerka “master” ah. Waxa la darsayaa sida soomali ku nooli af
soomaliga u ku hadlaan. Kol haddii aad af noorwiiji iyo af soomali labada ba ku hadlaysid, waxa la kaa
codsaniyaa in aad cilmibaadhiista tan ka qab kashid.

Waxa la samaynayo
Adiga iyo qof kale aya af soomaali ku sheekaysanaya. Hadalkaa na waa la duubayaa. Waxa aydin ka
hadlaysiiin dan la ka ma leh, se afka aydin ku hadlaysiiyay ahaa la darsayaa. Waxa ka le oo la ku tusayaa
sawirro oo la ku odhan doonaa ka faalo. Afka aad ku hadasho iyo dalalkii aad ku soo noolayd na wax baa
la kaa waydimayaa.

Waraysiga la ku la yeesho maxa la ku falayaa?
Warka la kaa duubo dad kale oo cilmibaadhiista ku hawlan baa akhriyii doona. Magacaagu meesha ka ma
muuqan doono. Wararka ku sahabsan afafka aad ku hadasso iyo dalalka aad ku soo noolayd waa la qori
doona haddii adigu aad sidii ogolaadit. Mar na ba magacaagoo meesha ka ma muuqan doona. Koxo ahaan
baa arrinka loo ka hadli doona. Qof qof la ma magacaabi doono.
Mashruucan waxa la soo qof u dhaqoobnaa 15.05.17 oo macluumaatka la ururiyay na magacaagu ka ma muuqan
doono. Haddii aad ogolaato muddo laba sana ah baa maguumaatkii la kaydhi doonaa (15.05.2019), si la kuu
waydiyay in aad cilmibaadhisyo kale ka qayb qaadan karto.
Si madax bannaan ayaad cilmibaadhistan u ka qayb qaadanaysaa. Haddii aad joojisoo in aad sii waddo,
waraysiga la ku la yeesho waxa uu noqon doonaa mid raad loo raaco aan lahayn.
Haddii aad jiraan su'aalo ku sahabsan cilmibaadhiista tan, la xidiidh ardayadda cilmibaadhiista tan heerka
“master” ah diyaariniyayas Nina Hagen Kaldhol (nhkaldhol@gmail.com) iyo labada caalmi ee cilmibaadhiista
tan hagaya oo ka la ah Sverre Stausland Johnsen (stausland.johnsen@iln.uio.no) iyo veileder Hanne Gram
Simonsen (h.g.simonsen@iln.uio.no).
Cilmibaadhiista tan waxa la la diinaangeliyay waaxda sirdhawaarka ee loo yaqaano “Personvernombudet for
forskning, Norsk samfunnsvitenskapelig datatjeneste AS.”

Ogolaasho in aad ka qayb galayso cilmibaadhiista tan:
• Waan fahmay warka ku sahabsan cilmibaadhiista tan oo diyaar baan u ahay in aad ka qayb qaato.
• Waa la i la soo xidhiidh karaa haddii loo baahdo in aad ka qayb qaato cilmibaadhiisyo kale mustaqbalka.
• Waan ogolohay in la qoro oo la soo saaro warka ku sahabsan afalka aan ku hadlo iyo meelaha aan ku
noolaan jiray.

.............................................................

Saxiixa kaqaybgalaha iyo taariikhda

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12 Appendix B: Word lists

In the following tables, all of the analyzed words from the dataset are listed. Different inflectional forms of the same lexeme are listed, but only one token per inflectional form. The tables include a broad phonetic transcription of the loanwords as they occurred in the corpus (under the header *Somali*), a translation equivalent and/or morpheme-to-morpheme glossing (under the header *Gloss*), a broad phonetic transcription of the Norwegian input form (under the heading *Norwegian*) and an orthographic transcription of the word in Norwegian (under the heading *Orthography*).

<table>
<thead>
<tr>
<th>Somali</th>
<th>Gloss</th>
<th>Norwegian</th>
<th>Orthography</th>
<th>Vowel quantity</th>
<th>Input tone</th>
<th>Output tone</th>
<th>Second tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>[helsá-ha]</td>
<td>health-M.DEF</td>
<td>[²hɛɭ.sə]</td>
<td>helse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In cases where Norwegian tone/stress was preserved, the vowel quantity (short/long) of the corresponding syllable in the output form was listed (under the heading *Vowel quantity*), in addition to tone in Norwegian (under the heading *Input tone*) and output tone (under the heading *Output tone*). Norwegian input tone is coded as L (accent 1) or HL (accent 2). The output tone is coded as H (H on a monomoraic syllable) or HL (H on the first mora of a bimoraic syllable).

<table>
<thead>
<tr>
<th>Somali</th>
<th>Gloss</th>
<th>Norwegian</th>
<th>Orthography</th>
<th>Vowel quantity</th>
<th>Input tone</th>
<th>Output tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>[hóonefos]</td>
<td>(place name)</td>
<td>[²høːnəˌfɔs]</td>
<td>Hønefoss</td>
<td>long</td>
<td>HL</td>
<td>HL</td>
</tr>
</tbody>
</table>

The words that had two high tones have an additional column *Second tone*. Here, tone is coded as either final H or penultimate H (in the case of monomoraic words, only H). The same goes for the H in words that had only one H assigned by the native Somali rules, where the location of this H is listed (under the heading *Tone*). Note that final and penultimate here refer to location of the stem (definite articles etc. are not counted).

<table>
<thead>
<tr>
<th>Somali</th>
<th>Gloss</th>
<th>Norwegian</th>
<th>Orthography</th>
<th>Vowel quantity</th>
<th>Input tone</th>
<th>Output tone</th>
<th>Second tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>[lóonekaasá-da]</td>
<td>proper.noun-F.DEF</td>
<td>[²loːnəˌkɑsɑ]</td>
<td>Lånekassa</td>
<td>long</td>
<td>HL</td>
<td>HL</td>
<td>final H</td>
</tr>
</tbody>
</table>

In some cases, the location of Norwegian stress/tone coincides with the location of an H assigned by Somali rules, and input tone/stress was preserved without violating the native tone patterns. In these cases, the high tone was coded in both of the ways described above, i.e. as either H (H on a monomoraic syllable) or HL (H on the first mora of a bimoraic syllable), and as either final H or penultimate H.

<table>
<thead>
<tr>
<th>Somali</th>
<th>Gloss</th>
<th>Norwegian</th>
<th>Orthography</th>
<th>Tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>[helsá-ha]</td>
<td>health-M.DEF</td>
<td>[²hɛɭ.sə]</td>
<td>helse</td>
<td>final H</td>
</tr>
<tr>
<td>Somali</td>
<td>Gloss</td>
<td>Norwegian</td>
<td>Orthography</td>
<td>Vowel quantity</td>
</tr>
<tr>
<td>--------</td>
<td>------------</td>
<td>-----------</td>
<td>-------------</td>
<td>----------------</td>
</tr>
<tr>
<td>[ʃi-qa]</td>
<td>ski-M.DEF</td>
<td>['ʃi:]</td>
<td>ski</td>
<td>long</td>
</tr>
</tbody>
</table>

Words without suffixes have the context they occurred in coded as [±Subject], [±Focus] and [±Final], or simply *isolation*. Additional information is included when relevant, e.g. gender, declension and case.
### 12.1 Nouns

<table>
<thead>
<tr>
<th>Somali</th>
<th>Gloss</th>
<th>Norwegian</th>
<th>Orthography</th>
<th>Vowel quantity</th>
<th>Input tone</th>
<th>Output tone</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>[hóonefos]</td>
<td>(place name)</td>
<td>[²høːnəˌfɔs]</td>
<td>Hønefoss</td>
<td>long</td>
<td>HL</td>
<td>HL</td>
<td>-subj-foc-final</td>
</tr>
<tr>
<td>[jáavnaaker]</td>
<td>(place name)</td>
<td>[²jɛʋˌnɑːkɾ]</td>
<td>Jevnaker</td>
<td>long</td>
<td>HL</td>
<td>HL</td>
<td>-subj-foc-final</td>
</tr>
<tr>
<td>[kúuʃelí]</td>
<td>nice, cozy</td>
<td>[²kuːʂɭi]</td>
<td>koselig</td>
<td>long</td>
<td>HL</td>
<td>HL</td>
<td>-subj-foc-final</td>
</tr>
<tr>
<td>[múuʃɔm]</td>
<td>funny</td>
<td>[²muʂɔm]</td>
<td>morsom</td>
<td>long</td>
<td>HL</td>
<td>HL</td>
<td>-subj-foc-final</td>
</tr>
<tr>
<td>[nóorɡe]</td>
<td>(place name)</td>
<td>[²nɔɾɡə]</td>
<td>Norge</td>
<td>long</td>
<td>HL</td>
<td>HL</td>
<td>-subj-foc-final</td>
</tr>
<tr>
<td>[túove]</td>
<td>(person name)</td>
<td>[²toːʋə]</td>
<td>Tove</td>
<td>long</td>
<td>HL</td>
<td>HL</td>
<td>-subj-foc-final</td>
</tr>
<tr>
<td>[triniʃi]</td>
<td>level four</td>
<td>[¹trin ²fiːɾə]</td>
<td>trinn fire</td>
<td>long</td>
<td>HL</td>
<td>HL</td>
<td>-subj-foc-final</td>
</tr>
<tr>
<td>[éedsfool]</td>
<td>(place name)</td>
<td>[²æjtsˌʋɔl]</td>
<td>Eidsvoll</td>
<td>long</td>
<td>L</td>
<td>HL</td>
<td>-subj-foc-final</td>
</tr>
<tr>
<td>[gurúnskuul]</td>
<td>elementary school</td>
<td>[²ɡɾʉnˌskuːɭə]</td>
<td>grunnskole</td>
<td>short</td>
<td>HL</td>
<td>H</td>
<td>-subj-foc-final</td>
</tr>
<tr>
<td>[sikejem]</td>
<td>nursing home</td>
<td>[²syːkəˌjɛm]</td>
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<td>H</td>
<td>isolation</td>
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<td>[¹nɔʂkɔpˌɭæːɾiŋ]</td>
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<td>H</td>
<td>-subj-foc-final</td>
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Table 12.1: Preservation of Norwegian prosodic properties
<table>
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<tr>
<th>Somali</th>
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<th>Orthography</th>
<th>Vowel q.</th>
<th>Input t.</th>
<th>Output t.</th>
<th>Second tone</th>
<th>Decl.</th>
<th>Gender</th>
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<tr>
<td>18  [föolkahajskúul-ka]</td>
<td>folk.high.school-M.DEF</td>
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<td>HL</td>
<td>penult</td>
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<td>D1</td>
<td>M</td>
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<td>19  [föolkahajskúul-kán]</td>
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<td>HL</td>
<td>HL</td>
<td>penult</td>
<td>H</td>
<td>D1</td>
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<td>20  [siîkehúus-ka]</td>
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<td>sykehus</td>
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<td>HL</td>
<td>penult</td>
<td>H</td>
<td>D1</td>
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<td>H</td>
<td>D2</td>
<td>M</td>
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<td>Lånekassa</td>
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<td>HL</td>
<td>final</td>
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<td>D2</td>
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<td>HL</td>
<td>final</td>
<td>H</td>
<td>D3</td>
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<td>HL</td>
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<td>H</td>
<td>D3</td>
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<td>H</td>
<td>penult</td>
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<td>D1</td>
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<td>final</td>
<td>H</td>
<td>D2</td>
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<td>D2</td>
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<td>H</td>
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<td>H</td>
<td>penult</td>
<td>H</td>
<td>D1</td>
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<td>H</td>
<td>final</td>
<td>H</td>
<td>D2</td>
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<td>34  [nójíkúf-ka]</td>
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<td>final</td>
<td>H</td>
<td>D3</td>
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<td>35  [ságsbehandlér-ka]</td>
<td>case.worker-M.DEF</td>
<td>saksbehandler</td>
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<td>L</td>
<td>H</td>
<td>final</td>
<td>H</td>
<td>D3</td>
<td>M</td>
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Table 12.2: Two high tones
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<th>Norwegian</th>
<th>Orthography</th>
<th>Vowel q.</th>
<th>Input t.</th>
<th>Output t.</th>
<th>Second tone</th>
<th>Context</th>
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<td>[²høːnəˌfɔs]</td>
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<td>HL</td>
<td>final H</td>
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<tr>
<td>38</td>
<td>[súulihogdá]</td>
<td>(place name)</td>
<td>[²suɭiˌhœɡdɑ]</td>
<td>Sollihøgda</td>
<td>long</td>
<td>HL</td>
<td>HL</td>
<td>final H</td>
</tr>
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<td>40</td>
<td>[fóolkahajskúul]</td>
<td>folk high school</td>
<td>[²fɔlkəhœjˌskuːɭ]</td>
<td>folkehøyskole</td>
<td>long</td>
<td>HL</td>
<td>HL</td>
<td>final H</td>
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<tr>
<td>41</td>
<td>[sáandeviíkáan]</td>
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<td>[²sɑnˌʋiːkɑ]</td>
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<td>HL</td>
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<td>[²jɛʋˌnɑ:kɾ]</td>
<td>Jevnaker</td>
<td>long</td>
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<td>HL</td>
<td>final H</td>
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<td>[röorlegér]</td>
<td>plumber</td>
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<td>44</td>
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<td>saksbehandler</td>
<td>short</td>
<td>L</td>
<td>H</td>
<td>final H</td>
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<tr>
<td>46</td>
<td>[drífsléder]</td>
<td>operations manager</td>
<td>[¹dɾiftsˌɭeːdɾ]</td>
<td>driftsleder</td>
<td>short</td>
<td>L</td>
<td>H</td>
<td>penult H</td>
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Table 12.3: Two high tones (bare nouns)
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<th>Somali</th>
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<th>Norwegian</th>
<th>Orthography</th>
<th>Tone</th>
<th>Gender</th>
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<tr>
<td>47 [re̠ct̠oo̱r-á̱d-da̱]</td>
<td>principal-FEM-F.DEF</td>
<td>[ˈref̠tor]</td>
<td>rektor</td>
<td>final H</td>
<td>F</td>
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<td>48 [ti̠j̠d̠ág-ta̱]</td>
<td>Tuesday-F.DEF</td>
<td>[tiz̠ˌd̠ɑːg]</td>
<td>tirsdag</td>
<td>final H</td>
<td>F</td>
</tr>
<tr>
<td>49 [úf-ta]</td>
<td>institution.name-F.DEF</td>
<td>[uf]</td>
<td>UFF</td>
<td>H</td>
<td>F</td>
</tr>
<tr>
<td>50 [náaf-ta]</td>
<td>institution.name-F.DEF</td>
<td>[nɔːv]</td>
<td>NAV</td>
<td>penult H</td>
<td>F</td>
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<tr>
<td>51 [forfaãter-ku]</td>
<td>author-M.DEF.NOM</td>
<td>[forfaːt̠r]</td>
<td>forfatter</td>
<td>penult H</td>
<td>M</td>
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<tr>
<td>52 [kiteɛriŋ-kãi]</td>
<td>receipt-M.DEF.FOC.1PL</td>
<td>[kvi̠t̠ɛɾiŋ]</td>
<td>kvittering</td>
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<td>M</td>
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Table 12.4: Declension 1
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<th>Somali</th>
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<th>Norwegian</th>
<th>Orthography</th>
<th>Vowel quantity</th>
<th>Input tone</th>
<th>Output tone</th>
<th>Gender</th>
</tr>
</thead>
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<tr>
<td>54 [komūn-ka]</td>
<td>municipality-M.DEF</td>
<td>[ku'muːnə] kömune</td>
<td>long</td>
<td>HL/penult H</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55 [adćukáad-ku]</td>
<td>lawyer-M.DEF.NOM</td>
<td>[aɗu'kɑːt] advokat</td>
<td>long</td>
<td>L/penult H</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56 [aqtifiteed-kii]</td>
<td>activity-M.REM.DEF</td>
<td>[ɑktiˈvɪːtɛːt] aktivitet</td>
<td>long</td>
<td>L/penult H</td>
<td>M</td>
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<td></td>
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<tr>
<td>57 [biblijuteeg-ga]</td>
<td>library-M.DEF</td>
<td>[biblijuˈteːk] bibliotek</td>
<td>long</td>
<td>L/penult H</td>
<td>M</td>
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<td>58 [firi-ga]</td>
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<td>[ˈfriː] fri</td>
<td>long</td>
<td>L/penult H</td>
<td>M</td>
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<td>59 [fōor-kāan]</td>
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<td>long</td>
<td>L/penult H</td>
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<td>long</td>
<td>L/penult H</td>
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<td>70 [gim-ka ]</td>
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<td>[ˈɡɪm] gym</td>
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<td>L/H</td>
<td>M</td>
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<td>71 [nōf-k-a]</td>
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<td>L/H</td>
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<td>72 [trīɡ-ga]</td>
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Table 12.5: Declension 1 (ambiguous words)
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<th>Norwegian</th>
<th>Orthography</th>
<th>Tone</th>
<th>Context</th>
<th>Gender</th>
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<td>helse</td>
<td>final H</td>
<td>-subj-foc-final</td>
<td>M</td>
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<td>[kəsa]</td>
<td>kasse</td>
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<td>-subj-foc-final</td>
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<td>Nina</td>
<td>final H</td>
<td>-subj-foc-final</td>
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<td>-subj+foc+final</td>
<td>M</td>
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<td>[kəsa]</td>
<td>kasse</td>
<td>penult H</td>
<td>-subj+foc+final</td>
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<td>penult H</td>
<td>-subj+foc+final</td>
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<td>[ɾentə]</td>
<td>rente</td>
<td>penult H</td>
<td>+subj+foc-final</td>
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<td>[gang-Č]</td>
<td>hallway-NMLZ</td>
<td>[ɡan]</td>
<td>gang</td>
<td>final H</td>
<td>isolation</td>
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<td>i helg(a)</td>
<td>final H</td>
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<td>suffixed</td>
<td>M</td>
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<td>[legsá-háan]</td>
<td>homework-M.DEF,FOC.1SG</td>
<td>[lɛksə]</td>
<td>lekse</td>
<td>final H</td>
<td>suffixed</td>
<td>M</td>
</tr>
<tr>
<td>[nooʃk-á-ha]</td>
<td>Norwegian-NMLZ-M.DEF</td>
<td>[nɔʂk]</td>
<td>norsk</td>
<td>final H</td>
<td>suffixed</td>
<td>M</td>
</tr>
<tr>
<td>[noʃk-á-ha]</td>
<td>Norwegian-NMLZ-M.DEF</td>
<td>[nɔʂk]</td>
<td>norsk</td>
<td>final H</td>
<td>suffixed</td>
<td>M</td>
</tr>
<tr>
<td>[noʃk-í-hii]</td>
<td>Norwegian-NMLZ-M.REM.DEF</td>
<td>[nɔʂk]</td>
<td>norsk</td>
<td>final H</td>
<td>suffixed</td>
<td>M</td>
</tr>
<tr>
<td>[sturtiŋgá-ha]</td>
<td>parliament-M.DEF</td>
<td>[stu:r_.ɪŋə]</td>
<td>stortinget</td>
<td>final H</td>
<td>suffixed</td>
<td>M</td>
</tr>
<tr>
<td>[fírká-ha]</td>
<td>church-M.DEF</td>
<td>[çɪɾkə]</td>
<td>kirke</td>
<td>final H</td>
<td>suffixed</td>
<td>M</td>
</tr>
<tr>
<td>[tolk-á-ha]</td>
<td>interpreter-NMLZ-M.DEF</td>
<td>[tɔlkl]</td>
<td>tolk</td>
<td>final H</td>
<td>suffixed</td>
<td>M</td>
</tr>
<tr>
<td>[trinfíri-hii]</td>
<td>level.four-M.REM.DEF</td>
<td>[trin ²fr.ɾə]</td>
<td>trinn fire</td>
<td>final H</td>
<td>suffixed</td>
<td>M</td>
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</table>

Table 12.6: Declension 2
<table>
<thead>
<tr>
<th>Somali</th>
<th>Gloss</th>
<th>Norwegian</th>
<th>Orthography</th>
<th>Vowel quantity</th>
<th>Input tone</th>
<th>Output tone</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>109 [biricaäd-ka]</td>
<td>private.school-M.DEF</td>
<td>[pri¹vɔː:t]</td>
<td>privat</td>
<td>final H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>110 [enarkoó-ga]</td>
<td>proper.noun-M.DEF</td>
<td>[ɛnæɾ¹koː]</td>
<td>NRK</td>
<td>final H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>111 [egsaamén-ka]</td>
<td>exam-M.DEF</td>
<td>[ɛk¹sɑːmən]</td>
<td>eksamen</td>
<td>final H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>113 [haís-ku]</td>
<td>lift-M.DEF.NOM</td>
<td>[ʰæjs]</td>
<td>heis</td>
<td>final H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>114 [rodhús-ka]</td>
<td>city.hall-M.DEF</td>
<td>[ɾoːdˌhʉːs]</td>
<td>rådhus</td>
<td>final H M</td>
<td></td>
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Table 12.7: Declension 3

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<tr>
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<th>Norwegian</th>
<th>Orthography</th>
<th>Vowel quantity</th>
<th>Input tone</th>
<th>Output tone</th>
<th>Gender</th>
</tr>
</thead>
</table>

Table 12.8: Declension 3 (ambiguous words)
<table>
<thead>
<tr>
<th>Somali</th>
<th>Gloss</th>
<th>Norwegian</th>
<th>Orthography</th>
<th>Tone</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>117</td>
<td>[baːrum]</td>
<td>[færø]</td>
<td>Bærum</td>
<td>penultimate H</td>
<td>isolation</td>
</tr>
<tr>
<td>118</td>
<td>[bereéʋ]</td>
<td>[brev]</td>
<td>brev</td>
<td>final H</td>
<td>subj + foc + final</td>
</tr>
<tr>
<td>119</td>
<td>[haís]</td>
<td>[heis]</td>
<td>heis</td>
<td>final H</td>
<td>subj + foc + final</td>
</tr>
<tr>
<td>120</td>
<td>[saandeʋiíkáa]</td>
<td>[Sændvika]</td>
<td>Sandvika</td>
<td>penultimate H</td>
<td>- subj + foc + final</td>
</tr>
<tr>
<td>121</td>
<td>[ʃaalóom]</td>
<td>[slalåm]</td>
<td>slalåm</td>
<td>penultimate H</td>
<td>- subj + foc + final</td>
</tr>
<tr>
<td>122</td>
<td>[tísk]</td>
<td>[tysk]</td>
<td>tysk</td>
<td>H</td>
<td>subj + foc + final</td>
</tr>
<tr>
<td>123</td>
<td>[taanúum]</td>
<td>[Tanum]</td>
<td>Tanum</td>
<td>penultimate H</td>
<td>subj + foc + final</td>
</tr>
<tr>
<td>124</td>
<td>[teebáan]</td>
<td>[T-bane]</td>
<td>T-bane</td>
<td>penultimate H</td>
<td>- subj + foc + final</td>
</tr>
<tr>
<td>125</td>
<td>[uslú]</td>
<td>[Oslo]</td>
<td>Oslo</td>
<td>final H</td>
<td>subj + foc + final</td>
</tr>
</tbody>
</table>

Table 12.9: Bare nouns
<table>
<thead>
<tr>
<th>Somali</th>
<th>Gloss</th>
<th>Norwegian</th>
<th>Orthography</th>
<th>Vowel quantity</th>
<th>Input tone</th>
<th>Output tone</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>126 [adruːkáat]</td>
<td>lawyer</td>
<td>advokat</td>
<td>long</td>
<td>L</td>
<td>HL/penult H</td>
<td>subj+foc+final</td>
<td></td>
</tr>
<tr>
<td>127 [aɡtifiːtéd]</td>
<td>activity</td>
<td>aktivitet</td>
<td>long</td>
<td>L</td>
<td>HL/penult H</td>
<td>subj+foc-final</td>
<td></td>
</tr>
<tr>
<td>128 [biriːáad]</td>
<td>private school</td>
<td>privat</td>
<td>long</td>
<td>L</td>
<td>HL/penult H</td>
<td>subj+foc-final</td>
<td></td>
</tr>
<tr>
<td>129 [firiː]</td>
<td>free</td>
<td>fri</td>
<td>long</td>
<td>L</td>
<td>HL/penult H</td>
<td>subj+foc-final</td>
<td></td>
</tr>
<tr>
<td>130 [køø]</td>
<td>queue</td>
<td>kø</td>
<td>long</td>
<td>L</td>
<td>HL/penult H</td>
<td>subj+foc-final</td>
<td></td>
</tr>
<tr>
<td>131 [perfeest]</td>
<td>priest</td>
<td>prest</td>
<td>long</td>
<td>L</td>
<td>HL/penult H</td>
<td>subj-foc-final</td>
<td></td>
</tr>
<tr>
<td>132 [rűuð]</td>
<td>(place name)</td>
<td>Rud</td>
<td>long</td>
<td>L</td>
<td>HL/penult H</td>
<td>isolation</td>
<td></td>
</tr>
<tr>
<td>133 [joøg]</td>
<td>shock</td>
<td>sjokk</td>
<td>long</td>
<td>L</td>
<td>HL/penult H</td>
<td>subj-foc-final</td>
<td></td>
</tr>
<tr>
<td>134 [teree]</td>
<td>three</td>
<td>tre</td>
<td>long</td>
<td>L</td>
<td>HL/penult H</td>
<td>subj+foc-final</td>
<td></td>
</tr>
<tr>
<td>135 [toøg]</td>
<td>train</td>
<td>tog</td>
<td>long</td>
<td>L</td>
<td>HL/penult H</td>
<td>subj+foc-final</td>
<td></td>
</tr>
<tr>
<td>136 [trintrie]</td>
<td>level three</td>
<td>trinn tre</td>
<td>long</td>
<td>L</td>
<td>HL/penult H</td>
<td>subj+foc-final</td>
<td></td>
</tr>
<tr>
<td>137 [tuːr]</td>
<td>trip</td>
<td>tur</td>
<td>long</td>
<td>L</td>
<td>HL/penult H</td>
<td>subj-foc-final</td>
<td></td>
</tr>
<tr>
<td>138 [viin]</td>
<td>wine</td>
<td>vin</td>
<td>long</td>
<td>L</td>
<td>HL/penult H</td>
<td>subj+foc-final</td>
<td></td>
</tr>
<tr>
<td>139 [biriːáad]</td>
<td>private school</td>
<td>privat</td>
<td>long</td>
<td>L</td>
<td>HL/penult H</td>
<td>subj-foc-final</td>
<td></td>
</tr>
<tr>
<td>140 [bloɡ]</td>
<td>apartment building</td>
<td>blokk</td>
<td>short</td>
<td>L</td>
<td>H</td>
<td>subj+foc-final</td>
<td></td>
</tr>
<tr>
<td>141 [nøjik]</td>
<td>Norwegian</td>
<td>norsk</td>
<td>short</td>
<td>L</td>
<td>H</td>
<td>subj-foc-final</td>
<td></td>
</tr>
<tr>
<td>142 [tisk]</td>
<td>German</td>
<td>tysk</td>
<td>short</td>
<td>L</td>
<td>H</td>
<td>subj-foc-final</td>
<td></td>
</tr>
<tr>
<td>143 [betir]</td>
<td>meaning</td>
<td>betyr</td>
<td>short</td>
<td>L</td>
<td>H/final H</td>
<td>subj-foc-final</td>
<td></td>
</tr>
<tr>
<td>144 [isterɛn]</td>
<td>strict</td>
<td>streng</td>
<td>short</td>
<td>L</td>
<td>H/final H</td>
<td>subj-foc-final</td>
<td></td>
</tr>
<tr>
<td>145 [istibɛn]</td>
<td>scholarship</td>
<td>stipend</td>
<td>short</td>
<td>L</td>
<td>H/final H</td>
<td>subj-foc-final</td>
<td></td>
</tr>
<tr>
<td>146 [suʃiːl]</td>
<td>social security benefits</td>
<td>sosial</td>
<td>short</td>
<td>L</td>
<td>H/final H</td>
<td>isolation</td>
<td></td>
</tr>
<tr>
<td>147 [tirik]</td>
<td>tram</td>
<td>trikk</td>
<td>short</td>
<td>L</td>
<td>H/final H</td>
<td>subj-foc-final</td>
<td></td>
</tr>
<tr>
<td>148 [tirik]</td>
<td>tram</td>
<td>trikk</td>
<td>short</td>
<td>L</td>
<td>H/final H</td>
<td>subj-foc-final</td>
<td></td>
</tr>
<tr>
<td>149 [asker]</td>
<td>(place name)</td>
<td>Asker</td>
<td>short</td>
<td>HL</td>
<td>H/penult H</td>
<td>isolation</td>
<td></td>
</tr>
<tr>
<td>150 [dømmer]</td>
<td>judge</td>
<td>dommer</td>
<td>short</td>
<td>HL</td>
<td>H/penult H</td>
<td>+subj+foc-final</td>
<td></td>
</tr>
<tr>
<td>151 [lærer]</td>
<td>teacher</td>
<td>lærer</td>
<td>short</td>
<td>HL</td>
<td>H/penult H</td>
<td>+subj+foc-final</td>
<td></td>
</tr>
<tr>
<td>152 [lidbug]</td>
<td>audio book</td>
<td>lydbok</td>
<td>short</td>
<td>HL</td>
<td>H/penult H</td>
<td>subj-foc-final</td>
<td></td>
</tr>
<tr>
<td>153 [skúle]</td>
<td>school</td>
<td>skole</td>
<td>short</td>
<td>HL</td>
<td>H/penult H</td>
<td>subj-foc-final</td>
<td></td>
</tr>
<tr>
<td>154 [bestɛmti]</td>
<td>definite</td>
<td>bestemt</td>
<td>short</td>
<td>L</td>
<td>H/penult H</td>
<td>subj+foc-final</td>
<td></td>
</tr>
<tr>
<td>155 [forfirret]</td>
<td>confused</td>
<td>forvirret</td>
<td>short</td>
<td>L</td>
<td>H/penult H</td>
<td>subj-foc-final</td>
<td></td>
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</table>

Table 12.10: Bare nouns (ambiguous)
<table>
<thead>
<tr>
<th>Somali</th>
<th>Gloss</th>
<th>Absolute case form</th>
<th>Norwegian</th>
<th>Orthography</th>
<th>Tone</th>
<th>Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>156</td>
<td>[natuurfāg]</td>
<td>sciences.GEN</td>
<td>N/A</td>
<td>[nɑ'tuːr,faːg]</td>
<td>naturfag</td>
<td>final H</td>
</tr>
<tr>
<td>157</td>
<td>[tōjēn]</td>
<td>place.name.GEN</td>
<td>[tōjēn]</td>
<td>[tōjēn]</td>
<td>Tøyen</td>
<td>final H</td>
</tr>
<tr>
<td>158</td>
<td>[adəukaad]</td>
<td>lawyer.NOM</td>
<td>[adəukāad]</td>
<td>[ədəu'kɑː:t]</td>
<td>advokat</td>
<td>no H</td>
</tr>
<tr>
<td>159</td>
<td>[dōmmer]</td>
<td>judge.NOM</td>
<td>[dōmmer]</td>
<td>[dɔmːr]</td>
<td>dommer</td>
<td>no H</td>
</tr>
<tr>
<td>160</td>
<td>[lārer]</td>
<td>teacher.NOM</td>
<td>[lārer]</td>
<td>[lərər]</td>
<td>lærer</td>
<td>no H</td>
</tr>
<tr>
<td>161</td>
<td>[sāgsbehandlēr]</td>
<td>case.worker.NOM</td>
<td>[sāgsbehandlēr]</td>
<td>[sɑːksbøˈhandlər]</td>
<td>saksbehandler</td>
<td>no H</td>
</tr>
<tr>
<td>162</td>
<td>[niinā]</td>
<td>person.name.NOM</td>
<td>[niinā]</td>
<td>[nɪːnɑ]</td>
<td>Nina</td>
<td>penult H</td>
</tr>
</tbody>
</table>

Table 12.11: Tonal case marking

<table>
<thead>
<tr>
<th>Somali</th>
<th>Gloss</th>
<th>Norwegian</th>
<th>Orthography</th>
</tr>
</thead>
<tbody>
<tr>
<td>163</td>
<td>[kuuda-jāasha]</td>
<td>code-PL.DEF</td>
<td>[ˈkuːda] kode</td>
</tr>
<tr>
<td>164</td>
<td>[nootaáter-ki]</td>
<td>notes-M.REM.DEF</td>
<td>[nuːtɑː.tr] notater</td>
</tr>
<tr>
<td>165</td>
<td>[niiheetēr-ka]</td>
<td>news-M.DEF</td>
<td>[ˈniːˌhe.ʈr] nyheter</td>
</tr>
</tbody>
</table>

Table 12.12: Plural forms
### 12.2 Other word classes

<table>
<thead>
<tr>
<th>Somali</th>
<th>Gloss</th>
<th>Norwegian</th>
<th>Orthography</th>
<th>Tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>166 [baasein-aj-naa]</td>
<td>take.care.of.INF-PROG-PRS.1PL</td>
<td>[²pɑsə]</td>
<td>passe</td>
<td>final H</td>
</tr>
<tr>
<td>167 [beekeín-aj-aa]</td>
<td>point.INF-PROG-PRS.1SG</td>
<td>[²peːkə]</td>
<td>peke</td>
<td>final H</td>
</tr>
<tr>
<td>168 [besookeín-aj-aa]</td>
<td>visit.INF-PROG-PRS.1SG</td>
<td>[bɛ¹søːkə]</td>
<td>besøke</td>
<td>final H</td>
</tr>
<tr>
<td>169 [fidereín-aj-aa]</td>
<td>further.INF-PROG-PRS.1SG</td>
<td>[²ʋiːdɾə]</td>
<td>videre</td>
<td>final H</td>
</tr>
<tr>
<td>170 [fulforeín waa-jo]</td>
<td>finish.INF fail-SUBORD</td>
<td>[²fʉɭˌføːɾə]</td>
<td>fullføre</td>
<td>final H</td>
</tr>
<tr>
<td>171 [fulforeín-aj-o]</td>
<td>finish.INF-PROG-SUBORD</td>
<td>[²fʉɭˌføːɾə]</td>
<td>fullføre</td>
<td>final H</td>
</tr>
<tr>
<td>172 [kalaareín-aj-aa]</td>
<td>succeed.INF-PROG-PRS.1SG</td>
<td>[²kɭɑːɾə]</td>
<td>klare</td>
<td>final H</td>
</tr>
</tbody>
</table>

Table 12.13: Verbs

<table>
<thead>
<tr>
<th>Somali</th>
<th>Gloss</th>
<th>Norwegian</th>
<th>Orthography</th>
<th>Input tone</th>
<th>Output tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>173</td>
<td>[forfírret]</td>
<td>confused</td>
<td>[foɾ¹ʋiɾət]</td>
<td>H</td>
<td>H/penult H</td>
</tr>
</tbody>
</table>

Table 12.14: Adjective
12.3 Uncertain word class

In some cases, the word class was hard to determine. For example, adverbials are usually noun phrases in Somali (Saeed 1999 p. 124). Therefore, when Norwegian adverbs are used as adverbials in Somali, one could argue that they are borrowed as nouns. However, there is a small group of words that may be classified as adverbs in Somali, so it might be the case that Norwegian adverbs are treated like these. They do not form a coherent group (ibid. p. 124) and it is not clear how best to analyze them or their tone patterns. The Norwegian words that fell into this group are listed in table 12.15, and their respective contexts are provided in (111-114).

Possible adverbs

(111) in aan wax barto fashtí
that 1SG thing learn first
'That I learn something first.'
[faʃti] < ['fœʂt'] først 'first'

(112) Laakin haddeerta ófte waan fahm-aa.
but now often DECL.1SG understand-PRS.1SG
'But now I often understand (what is said in Norwegian).'
[ófte] < ['ɔftsə] ofte 'often'

(113) Sóó mar-kaas haddana waxaan wac-ay
then time-M.DEM again FOC.1SG call-PST.1SG
iskuul-ka
school-M.DEF
'Then I called the school again.'
[sóo] < ['soː] så 'then'

(114) Meér wuxuu noqd-ay intemashunal.
more FOC.3SG.M become-PST.3SG.M international
'It (my dialect) became more international.'
[meër] < ['meːɾ] mer 'more'

The words in (115-118) are possibly used as nouns (objects of preverbal adpositions in 115-117, possibly direct objects in 118), but (115) might also be argued to be an adjective, and (116-118) are possibly adverbs.
**Possible nouns**

(115) Si ay béhaagli u dareemaan. way 3.PL comfortable to/for feel 'They feel comfortable.'

[béhaagli] < [be¹hɑːɡɭi] behagelig 'comfortable'

(116) Fásti u ma shaqeyo. permanent in NEG work 'I don’t have a permanent job.'

[fásti] < ['fɑst] fast 'permanent'

---

<table>
<thead>
<tr>
<th>Somali</th>
<th>Gloss</th>
<th>Norwegian</th>
<th>Orthography</th>
<th>Word class (NOR)</th>
<th>Word class (SOM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>174</td>
<td>[faʃtí]</td>
<td>first</td>
<td>['fiːʂt]</td>
<td>adverb</td>
<td>adverb?</td>
</tr>
<tr>
<td>175</td>
<td>[ófte]</td>
<td>often</td>
<td>['-scalable']</td>
<td>adverb</td>
<td>adverb?</td>
</tr>
<tr>
<td>176</td>
<td>[sóo]</td>
<td>then</td>
<td>['sɑ:]</td>
<td>adverb</td>
<td>adverb?</td>
</tr>
<tr>
<td>177</td>
<td>[meér]</td>
<td>more</td>
<td>['meːɾ]</td>
<td>adverb</td>
<td>adverb?</td>
</tr>
<tr>
<td>178</td>
<td>[béhaagli]</td>
<td>comfortable</td>
<td>[be¹hɑːɡɭi]</td>
<td>adjective</td>
<td>noun?</td>
</tr>
<tr>
<td>179</td>
<td>[fásti]</td>
<td>permanent</td>
<td>['fɑst]</td>
<td>adjective</td>
<td>noun?</td>
</tr>
<tr>
<td>180</td>
<td>[fiideré]</td>
<td>further</td>
<td>['çi:drə]</td>
<td>adverb</td>
<td>noun?</td>
</tr>
<tr>
<td>181</td>
<td>[fiideré]</td>
<td>further</td>
<td>['çi:drə]</td>
<td>adverb</td>
<td>noun?</td>
</tr>
</tbody>
</table>

Table 12.15: Uncertain word class
### 12.4 Change of word class

Some words were placed in a different word class than their Norwegian equivalent when borrowed into Somali. These words were listed in their respective tables above, but the contexts they occurred in are provided here. For example, *ufaglaart* was analyzed as a noun because it is the object of a copula verb in a relative clause (119).

(119) **Adjective → noun**

```
qof úfaagleeh ah
person unskilled COP
```

’a person who is unskilled, an unskilled worker’

[úfaagleeh] < [²ʉːˌfɑːɡˌɭæːʈ] *ufaglært* ‘unskilled’

(120) **Adjective → noun**

```
Kúusheli bay ahayd!
nice FOC.3SG.F COP
```

‘That was nice (niceness)!’

[kúuʃeli] < [²kuːʂɭi] *koselig* ‘nice, cozy’

(121) **Adjective → noun**

```
Waddan-ka wuxuu leeyahay isteréng.
country-M.DEF FOC.3SG.M own.PRS.3SG.M strict
```

‘The country is strict (has strictness).’

[isterén] < [ˈstɾɛŋ] *streng* ‘strict’

(122) **Adjective → noun**

```
Taa baa i-gu múushom badn-ayd.
F.DEM FOC me-in funny very-COP
```

‘This (story) was the funniest in my opinion.’

[múuʃom] < [²muʂɔm] *morsom* ‘funny’

(123) **Adjective → noun**

```
[...]bestémti baad ka sheeg-ay-saa,
definite FOC.2SG about tell-PROG-PRS.2SG
mar-kaa.
time-M.DEF
```

‘Now you are saying something about definite (form).’

[bestémti] < [bɛs¹tɛmt] *bestemt* ‘definite’

(124) **Adjective → noun**

```
Maan-ta úbehaagli baad dareymaysaa.
day-F.DEF uncomfortable FOC.2SG feel
```

‘Today, you feel uncomfortable.’

[úbehaagli] < [²uːbəhɑːɡɭi/ʉbə¹hɑːɡɭi] *ubehagelig* ‘uncomfortable’
'If not, it is possible that we’ll start private school on Tuesday.'

'Let’s say that I study and pass with the grade 3, I often get 3 in Norwegian.'

'What is the meaning?'

'Not even the teacher (and I) understand what it means (its meaning)'

'But I will stop and I will just continue the work for myself, continue.'
The word *forvirret* ‘confused’ was used once as an adjective (attribute in the noun phrase *anoo forvirret* in 131) and once as a noun (object of the copula verb in the relative clause *forvirret eh* in 132).

(131) **Adjective → adjective**

Anoo  *forfirret* yacni  ku wareersan wix-ii.
1SG.CONJ confused namely in  confused   thing-M.REM.DEF

’*Forvirret* means *confused.*’

[forfirret] < [fɔɾ¹ʋiɾət] *forvirret* ‘confused’

(132) **Adjective → noun**

Anoo  *forfirret* eh  ayaan  guri-ga  imaanaa  haveen-kii.
1SG.CONJ confused COP  FOC.1SG house-M.DEF come  evening-M.REM.DEF

’I come home at night, confused.’

[forfirret] < [fɔɾ¹ʋiɾət] *forvirret* ‘confused’
### 12.5 Some words of possible English origin

In some cases, it is not possible to determine whether a word was borrowed from English or Norwegian. These words were discarded from the data because it is not clear what the input form is in these cases. Some of them are listed here in table 12.16 (with Norwegian input forms).

<table>
<thead>
<tr>
<th>Somali</th>
<th>Gloss</th>
<th>Norwegian</th>
<th>Orthography</th>
<th>Tone</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 [abriil]</td>
<td>April</td>
<td>[ap'riːl]</td>
<td>april</td>
<td>penult H</td>
<td>-subj-foc-final</td>
</tr>
<tr>
<td>5 [óslo]</td>
<td>(place name)</td>
<td>['uslu]</td>
<td>Oslo</td>
<td>penult H</td>
<td>-subj-foc-final</td>
</tr>
<tr>
<td>6 [dijalégti]</td>
<td>dialect</td>
<td>[dijalékt]</td>
<td>dialekt</td>
<td>penult H</td>
<td>isolation</td>
</tr>
<tr>
<td>7 [kultur]</td>
<td>culture</td>
<td>[ku[tur]</td>
<td>kultur</td>
<td>penult H</td>
<td>isolation</td>
</tr>
<tr>
<td>8 [alaármí-gáan]</td>
<td>alarm-M.DEF.FOC.1SG</td>
<td>['alarm]</td>
<td>alarm</td>
<td>penult H</td>
<td>suffixed</td>
</tr>
<tr>
<td>9 [báan-ka]</td>
<td>bank-M.DEF</td>
<td>['bakj]</td>
<td>bank</td>
<td>penult H</td>
<td>suffixed</td>
</tr>
<tr>
<td>10 [burubelém-ka]</td>
<td>problem-M.DEF</td>
<td>[pruble:m]</td>
<td>problem</td>
<td>penult H</td>
<td>suffixed</td>
</tr>
<tr>
<td>12 [fonteén-ka]</td>
<td>fountain-M.DEF</td>
<td>[fon'te:n]</td>
<td>fontene</td>
<td>penult H</td>
<td>suffixed</td>
</tr>
<tr>
<td>13 [qalaás-ka]</td>
<td>class-M.DEF</td>
<td>['klasa]</td>
<td>klasse</td>
<td>final H</td>
<td>suffixed</td>
</tr>
<tr>
<td>14 [interriúü-gi]</td>
<td>interview-M.REM.DEF</td>
<td>[intriúü]</td>
<td>intervju</td>
<td>penult H</td>
<td>suffixed</td>
</tr>
<tr>
<td>16 [ríaum-ka]</td>
<td>room-M.DEF</td>
<td>['rium]</td>
<td>rum</td>
<td>penult H</td>
<td>suffixed</td>
</tr>
<tr>
<td>18 [sentráal-kút]</td>
<td>central-M.DEF,NOM</td>
<td>[sen'tral]</td>
<td>sentral</td>
<td>penult H</td>
<td>suffixed</td>
</tr>
<tr>
<td>19 [signál-ka]</td>
<td>signal-M.DEF</td>
<td>['signal]</td>
<td>signal</td>
<td>penult H</td>
<td>suffixed</td>
</tr>
<tr>
<td>20 [sistém-ka]</td>
<td>system-M.DEF</td>
<td>['system]</td>
<td>system</td>
<td>final H</td>
<td>suffixed</td>
</tr>
<tr>
<td>21 [sistém-ka]</td>
<td>system-M.DEF</td>
<td>['system]</td>
<td>system</td>
<td>penult H</td>
<td>suffixed</td>
</tr>
<tr>
<td>22 [tígs-ka]</td>
<td>text-M.DEF</td>
<td>['tekst]</td>
<td>tekst</td>
<td>H</td>
<td>suffixed</td>
</tr>
</tbody>
</table>

Table 12.16: Words of possible English origin