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# THE PHONOLOGY OF ICELANDIC AND FAROESE

KRISTJÁN ÁRNASON

preaspiration

Polysystemicity

Skerpingin

diphthongs and monophthongs

# The Phonology of Icelandic and Faroese

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THE  
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OF  
ICELANDIC AND  
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*Kristján Árnason*

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*To the memory of Edmund Gussmann*

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# ABBREVIATIONS

A	appendix
ACC	accusative
ADJ	adjective
ADV	adverb
AP	adverbial phrase
C	consonant
COMP	comparative
CWN	Common West Nordic
DAT	dative
DEF	definite
DTE	designated terminal element
FEM	feminine
Fn.	footnote
FTA	Focus to Accent
FVD	Final Vowel Deletion
GEN	genitive
IMP	imperative
INF	infinitive
INTR	intransitive
IO	Input–Output
IP	Intonational Phrase
ip	Intermediate Phrase
IPA	International Phonetic Association
Lv.	occasional stanza ( <i>lausavísa</i> )
MASC	masculine
ME	Middle English
MED	Mediopassive
MF	Modern Faroese
MG	Modern German
MI	Modern Icelandic
N, NEUT	neuter



NOM	nominative
NP	noun phrase
O	Onset
OBL	Oblique (case)
OCp	Obligatory Contour Principle
OE	Old English
OHG	Old High German
OI	Old Icelandic
ON	Old Norse
OT	Optimality Theory
OWN	Old West Nordic
P	person
PART	participle
PAST	past tense
PL	plural
POS	positive
rd.	rounded
R	rhyme
ROTB	‘Richness of the Base’
$\sigma$	syllable
SG	singular
SUBJ	subjunctive
SUPERL	superlative
unrd.	unrounded
V	vowel
VC	vowel – consonant
VOT	voice onset time

## Part I

### The historical and theoretical setting

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## THE TWO LANGUAGES AND THEIR HISTORICAL RELATION

The two languages treated in this book have, along with some west Norwegian dialects, been categorized historically as forming the western branch of the Nordic stem of the Germanic *Stammbaum* (see Haugen 1982 for a comparative overview). They are presently spoken and function as official languages and languages of culture on islands in the North Atlantic, belonging to two societies, the Republic of Iceland with about 320,000 inhabitants, and the Faroes with about 48,000 inhabitants, which form an autonomous region within the Danish Union (*Rigsfællesskab*). Iceland has a history of monolingualism and a very old written norm, whereas until the twentieth century Danish was the official language in the Faroes, and written Faroese stems only from the eighteenth century (see e.g. Barnes 1978, Svabo Hansen 2003, and Thráinsson et al. 2004: 369–465 on the history of Faroese). The Danish influence on Faroese is obvious, particularly in a great number of loanwords, and it is sometimes said that syntactically speaking, Faroese lies somewhere between ‘Mainland Scandinavian’, that is the Scandinavian languages proper, and ‘Insular Scandinavian’, that is prototypically Icelandic (see Rischel 1992 for a typological evaluation, cf. also Barnes and Weyhe 1994, Thráinsson 2000, Sandøy 2001; see Petersen 2010a for discussion of the sociolinguistic relation between Danish and Faroese). The Faroese orthography used today is very archaic and heavily influenced by the Old and Modern Icelandic standard.

The third branch of the West Nordic tree was cut off or ‘pruned’, so to speak, when the Norwegian chancery adopted Danish (cf. Árnason 2003). However, several of the phonological features of Faroese and Icelandic are found in southern and western Norwegian dialects (cf. e.g. Hægstad 1907–42; Chapman 1962; Christiansen 1946–48; Sandøy 2003; Ottosson 2003).

### 1.1 THE GENETIC RELATION: ‘PROTO-WEST NORDIC’

It is well known that in spite of its usefulness as a model of genetic relations between languages, the *Stammbaum*-metaphor and the methods of reconstruction, assuming regular sound changes, that go with it tend to lead to abstractions which often have less to do with reality than intended. And more often than not paradoxes appear, entangling the branches and making the picture messier than it was set out to be. The genetic relation between Icelandic and Faroese is in fact obvious, and it is easy to correlate many phonological, morphological, and even syntactic characteristics of the

languages by assuming a common ancestor, some sort of ‘Common West Nordic’ (CWN), from which the present-day idioms have developed. (We will leave the complicated issue of the relationship with Norwegian out for the moment.) Furthermore, this ancestor is (or should be, according to the simplest model of this relation), amply documented in the classical Icelandic–Norwegian literature.

In fact, establishing a historical relation between the modern languages and classical Old Icelandic (OI)/Old Norse (ON) is often quite straightforward, for example by saying that the morphological or phonological structure of the present-day languages have ‘lost’ or ‘added’, perhaps borrowed from elsewhere, features that were or were not present in the original language. This is evident when we look at morphosyntactic categories such as, for example, the case system, where in Modern Faroese (MF) the genitive has been more or less lost as a thematic case (see e.g. Thráinsson et al. 2004: 248ff.). In general, the Faroese system has undergone important changes, compared to the Old Norse standard, and also compared to Modern Icelandic (MI), which is more conservative. Thus it can be said that the inflectional system of MI is basically the same as that of classical Old Icelandic. But in spite of the conservatism, interesting changes have taken place in Icelandic morphosyntax. Thus the use of dummies like *það* ‘it’ and the verb *vera* ‘to be’ has increased over the course of time (cf. e.g. Sigurjónsdóttir and Maling 2001; Benediktsson 2002; Rögnvaldsson 2005), and the use of prepositions in possessive constructions is on the increase, as in *hendin á mér* ‘my hand’ and *tölvan hjá mér* ‘my computer’ beside *hönd mín* and *tölvan mín*.

When it comes to phonological structure, which obviously is our main concern here, the testimony of standard Old Icelandic is in some ways quite clear, and in fact the phonological history is more interesting, since more has happened over time in the phonology than in the morphosyntax. We have ample documentation of the phonemic inventory of Old Icelandic, based on the evidence of texts (both prose and poetry) from the twelfth century onwards, and no less importantly in works such as the First Grammatical Treatise, where a detailed phonological analysis is presented. This good documentation makes it possible to compare the older and later stages in quite a bit of detail, and, for Icelandic in particular, the continuous production of written texts allows the historical development to be plotted quite closely. (For an investigation of the phonological history of Icelandic, see e.g. Benediktsson 1959, 1970a). A detailed historical documentation of the phonological development of Faroese is not so easy, since written sources are relatively rare, but comparative evidence from Old and Modern Icelandic helps to create a reasonably clear picture. (See Hansson 1983; Thráinsson et al. 2004: 369–465 on the phonological history.)

## 1.2 WEST NORDIC OBSTRUENTS

But although much is known about Common West Nordic, many things are unclear about ‘phonetic detail’, and even some fundamental properties of the system. One such point of ignorance regards the phonetic character of the opposition between the fortis and lenis, hard and soft, plosives, *p, t, k* vs *b, d, g*, in ON forms like *pungr*

'bag', *taka* 'to take', *korn* 'corn', vs *borg* 'town', *dagr* 'day', *garðr* 'garden, fence'. According to most traditional handbooks the opposition in Old Icelandic was based on voicing (cf. Benediktsson 1972: 165–74; Iversen 1973: 11–12), but as shown by scholars like Steblin-Kamenskij (1960, 1974) and Hansson (2001), relating the modern West Nordic system—where aspiration distinguishes between the respective series—to this alleged proto-structure and the more eastern or central European system—where voicing is more prevalent—is by no means a simple matter. In fact, although commonly assumed, it is not clear that the voiced–voiceless opposition was true of the whole North Germanic area; it is conceivable that in at least some varieties of Proto-Nordic, the opposition was based on aspiration. In any case, if voicing was the distinctive feature in Old West Nordic (OWN), the fact that both Icelandic and Faroese use aspiration to distinguish the systems tells us that a consonant shift has taken place in both languages, although dating this change is not easy.

This detail regarding the interpretation of the historical relations, and more importantly, the phonological 'foundations' of the languages treated here is all the more important because of the likelihood, often noted, that the consonant shift was some sort of chain shift, that is, that we are dealing not with individual sounds, but with a system of sounds. In fact the development is a chain shift in two respects. On the one hand, the fortis–lenis opposition was maintained in initial position (in pairs like *punga* 'bags-ACC.PL' and *bunga* 'hill'), which means that the change did not affect individual segments, but the (sub)system as a whole, and, on the other hand, in medial position the development of preaspiration in *vakna* [vahkna] 'to wake up' as a part of the shift, was most likely somehow related to the development of a stop in *vagna* [vakna] 'wagons'- GEN. So word internally, what was once an opposition between a stop and a voiced obstruent (originally a fricative) became an opposition between two voiceless stops, distinguished by aspiration. Comparative reasoning points to earlier [\*vakna] vs [\*vaɣna], and this consonant shift is something which both languages share, and so by the logic of historical comparative linguistics should be assigned to the mother language, that is Proto-West Nordic. This would then mean that the traditional interpretation, that the fortis–lenis opposition was based on voicing is not justified.

Whatever the phonetic character of the fortis–lenis opposition and its geographic distribution, the structure of the reconstructed obstruent system can be pictured as in (1.1):

(1.1)		Labial	Dental	Velar	Laryngeal
Stops	Fortis	p	t	k	
	Lenis	b	d	g	
Fricatives	Voiceless	f	þ, s		h
		ɸ	ð		
	Voiced	β (v)	ð	ɣ	

As shown in (1.2) there was a three-way opposition in initial position with regard to the manner of articulation between *fortis* (voiceless) *plosives*, *lenis* (voiced) *plosives*, and *voiceless fricatives* and a sibilant *s*. (No voiced fricatives occurred word initially.)

(1.2)	Proto-Nordic	OWN
Fortis plosives		
p	*pungaR	<i>pungr</i> ‘bag’
t	*tungō(n)	<i>tunga</i> ‘tongue’
k	*kurna	<i>korn</i> ‘corn’
Lenis plosives		
b	*burgōR	<i>borgar</i> ‘town-GEN’
d	*dagaR	<i>dagr</i> ‘day’
g	gastiR	<i>gestr</i> ‘guest’
Voiceless fricatives		
f	faihidō	<i>fáða</i> ‘painted’
þ	þar	<i>þar</i> ‘there’
h	horna (<*hurna)	<i>horn</i> ‘horn’
s	satidō	<i>setta</i> ‘put-PAST’

In word internal position after a vowel, the opposition between fortis and lenis stops was neutralized, since only fortis (i.e. voiceless) ones occurred, as in *drepa* ‘to kill’, *gata* ‘road, path’, and *taka* ‘to take’.

No voiced fricatives occurred in initial position, but voiced and voiceless fricatives were in complementary distribution in the labial and dental series, as partly reflected by the spelling: OI *fara* [fara] ‘to go’ *hǫfuð* [hɔvuð] ‘head’, *þar* [θar] ‘there’ *taða* [taða] ‘hay’ (also spelled *taþa*). In the velar region, there is a gap, left by the disappearance of Proto Nordic voiceless [x] in word internal position in *\*fahan* > *fá* [fa:] ‘to get’. A part of this development was the change of the initial /h/ in *horn(a)* ‘horn’ from a velar fricative [x] to a laryngeal [h]. (A remnant of the fricative articulation is to be found in an Icelandic dialect pronunciation of historical /hv/ with a fricative as in *hvalur* ‘whale’ as [x<sup>w</sup>a:lyr̥]; the majority dialect in Iceland, and all Faroese dialects, have developed stops in these forms, giving MI [k<sup>h</sup>va:lyr̥]/[kfa:lyr̥], MF [k<sup>h</sup>vea:lɔɪ]/[kfeɑ:lɔɪ].)

### 1.3 WEST NORDIC SONORANTS

Classical Old Norse had a labial nasal /m/, as in *maðr* ‘man’ *koma* ‘to come’, and a dental /n/, as in *niðr* ‘descendant’ and *skína* ‘to shine’. It is likely that velar (and perhaps palatal) variants occurred before velars and palatals, as in *langr* ‘long ADJ-M’ and *lengi* ‘long ADV’. The standard written representation of the nasal was the grapheme <n>, but the First Grammarian notes the assimilation of /n/ to a following /g/ and suggests a special character, which he calls *eng* to represent the cluster /ng/ in *hringr* ‘ring’ (see Benediktsson 1972: 236). We cannot exclude the possibility that the First Grammarian’s suggestion of using one letter was motivated by a stopless pronunciation, that is something like [hriŋr]. But this is unlikely, since both modern languages have stops in forms like MI *fiŋgri* [fiŋkri] ‘finger-DAT.SG’ and MF *fiŋgrar* [fiŋkɹɑɪ] ‘finger-NOM.PL’. In any case we can assume that a principle of place assimilation for

nasals to following a stop was valid for OWN. And this is also confirmed by the fact that the phonotactics of the modern languages provides for forms like *lamb* 'lamb', *land* 'land' with place agreement, but no underived forms like \**lanb* or \**lamd*.

As regards liquids, the lateral /l/, as in *land* 'land' and *tala* 'to speak' was most likely dental, although there may well have been some variation, giving retroflex, palatal, or velar variants. It is also possible that there was some variation in the articulation of the trill /r/. Here retroflexion may well have been an option and it is conceivable that uvular pronunciation may have been dialectal or even widespread at some stage. An overview of the West Nordic sonorants is given in (1.3):

(1.3)		Labial	Dental	Velar
	Nasal	m	n	ŋ
	Lateral		l	
	Trill		r	

#### 1.4 WEST NORDIC VOWELS

Based on the testimony of Old Icelandic writing and phonological analysis, the West Nordic vowel system can be reconstructed as a diasystem, containing (in principle) isomorphic systems of long and short stressed vowels and a smaller set of unstressed vowels (cf. Benediktsson 1959). The effect of the proto-Nordic processes of umlaut and breaking was to multiply the set of vowel qualities so that for the earliest stage of classical Old Icelandic the system was relatively rich, containing nine vowel qualities as shown in (1.4):

(1.4)		front unrd.	front rd.	back unrd.	back rd.
	high	i [i]	y		u [u]
	mid	e [e]	ø		o [o]
	low	ɛ [ɛ]		a	ɔ [ɔ]

In the ideal 'proto-lect', all of these qualities occurred as long or short, based on a phonemic length correlation, although the actual testimony for this state of affairs is indirect. The clearest evidence comes from the twelfth-century *First Grammatical Treatise* (see Haugen 1950; Benediktsson 1972), which presents an analysis based on nine vowel qualities, and a correlation of length (in addition to nasalization). However, the picture presented in the literature bears certain marks of being a reconstruction, since we have no direct evidence of an idiom where the system is preserved in its original form, that is with total isomorphism between the long and the short system, and there are some ambiguities as to the actual quality of the vowels.

For unstressed syllables, where there is no length contrast, a system of three vowel qualities has been assumed, as in (1.5):



(1.5) i      u  
           a

These are the typical vowels for non-initial syllables, grammatical morphemes, and inflectional endings, as in *gestir* ‘guests-NOM.PL’, *hestar* ‘horses-NOM.PL’, *hestum* ‘horse-DAT.PL’. The fact that both the length and the quality of these unstressed ending vowels is limited suggests that there was a systematic difference in Old Icelandic between what may be called full, stressable syllables and reduced or restricted ones, which could not take the word stress.

## 1.5 DIPHTHONGS AND SEMIVOWELS

In addition to these monophthongal qualities, the following closing and falling diphthongs occurred: /au/ as in *bauð* ‘ordered, invited’, /ei/ as in *leit* ‘looked’, and /øy/ (written < ey >) as in *reykr* ‘smoke’. This last diphthong developed from /au/ by i-umlaut (cf. *rauk*, the past tense of *rjúka* ‘to reek, to smoke’). One way to analyse these diphthongs is to see them as combinations of the vowel qualities [a], [e], and [ø] with [i] and [u] as semi-vowels. And a similar interpretation seems to be possible of the falling diphthongs in *kjǫlr* ‘keel’ and *kjalar* ‘keel-GEN’. These short diphthongs came about by the ‘breaking’ of older /e/, in certain environments. This breaking involved the epenthesis of a low vocalic quality after the /e/, which then lost its syllabicity and became a glide [i]. This type of analysis gets support from the fact that the initial sound of *jorð* ‘earth’ alliterated with vowels in eddic and skaldic poetry. And the same goes for the initial sound of *járn* ‘iron’ in spite of the fact that it has a different origin (cf. Harðarson 2011). According to the First Grammmarian, /v/ was a consonantal variant of /u/, and there are some instances of such a /v/ apparently alliterating with a vowel in early poetry.

## 1.6 PROSODIC STRUCTURE

Obviously we do not know much about intonation and tonal contours in Old Norse (nor indeed the details of the contours, which created the basis for the present day Eastern Nordic word tones and *stød* (see Section 15.4 below). But some information on phrase phonology can be drawn from the testimony of the older poetry (e.g. the workings of the so-called Kuhn’s Laws and Craigie’s Law in eddic and skaldic poetry, see Kristján Árnason 2002, 2009a).

When it comes to word phonology, we are in a better position, and in many respects we are relatively well informed about the segmental and suprasegmental structure of words in Old West Nordic. We know, for example, that the distinction between long and short vowels had an effect on syllabic quantity. The testimony, both of the

grammatical literature (most importantly the First Grammatical Treatise), and the writing system, is that a correlation of vowel length distinguished between two ideally isomorphic systems of long and short vowels. Thus one of the distinctions that the First Grammarian demonstrates is that between pairs like *far* ‘a ship’ and *fár* ‘emergency’ and *vil* ‘wishful thinking’ and *víl* ‘misery’, which are distinguished by the length of the vowel. (He in fact supplies a substitution table for all long and short pairs (nasalized and non-nasalized), giving a total of thirty-six vowel oppositions; see Benediktsson 1972: 218–22.)

To confirm the word-prosodic correlates of this length distinction, the poetry clearly shows that syllables with short vowels followed by one consonant, in forms like *tala* ‘to talk’, *vinir* ‘friends’, were light, in that they could not carry a full ictus in the skaldic metre of *dróttkvætt*. A simply statable fact showing this is that the last strong position in *dróttkvætt* could only be filled by a heavy syllable. A heavy syllable was one which had a long vowel or diphthong, or if the vowel was short, a closed syllable, as shown in (1.6):

- (1.6) Undrask öglis *landa*  
 eik hví vér’rom *bleikir*  
 ‘The lady wonders why we are pale’

(Pormóðr Kolbrúnarskáld. Lv. 25)

The first line of this couplet ends in the form *landa* ‘land-GEN.PL’, which has a heavy first syllable with a short vowel followed by a tautosyllabic consonant, and in the second syllable, the penultimate position is filled by a diphthong, which, like long vowels belonging to forms such as *líta* ‘to look’, forms a heavy syllable. There is also direct evidence that poets and scholars were aware of such a prosodic distinction between heavy and light syllables (see Árnason 1991/2000: 89–103 and references).

A further distinction in word phonology is sometimes made between long or heavy and overlong or ‘superheavy’ syllables, that is those which had a long vowel followed by long consonants and consonant clusters, such as *átt* ‘direction’, and *ást* ‘love’. But (as will be shown in Chapter 2) the evidence regarding this type of syllable type as a separate category is not as unambiguous; we note, for example, that they did not have any sort of special status in the poetic texts.

A general change, usually called the **quantity shift**, involving (among other things) a shortening of the old long vowels in closed syllables, and the lengthening of old short ones in open syllables, has eliminated the short disyllables and the overlong syllables (to the extent that their rhythmic character was special). This happened in both Faroese and Icelandic (showing its marks in Icelandic poetry in the fifteenth or sixteenth century), giving all stressed syllables the same quantity; in terms of metrical theory (Hayes 1995), the change involved a typological shift from a system of moraic trochee system to one of syllabic trochees.<sup>1</sup> A large-scale merger of originally long

<sup>1</sup> This is something which has also taken place in most dialects of Swedish and Norwegian (see Riad 1992), but not (or at least to a lesser extent) in Danish, which keeps a distinction between heavy and light

and short vowel systems was avoided in both languages by changes in vowel quality, typically the diphthongization of long vowels and the laxing or centralization of short ones.

syllables (Basbøll 2005), which is a part of a general trend in Germanic (cf. Prokosch 1939: 140). According to Riad (1992: 131) this is basically caused by '[t]he retraction [in Germanic] of main-stress to the stem-initial syllable . . . [which] introduces a certain tension, or disharmony, into the stress system . . . By retention of main-stress on the stem initial syllable, Germanic comes to contain a conflict deeply embedded in the stress system.' Also, according to Riad (p. 247), there occurred a '[d]ivorce of main-stress from syllabification', roughly meaning that stress (involving mora insertion) came to be assigned 'after' syllabification, which later led to the lengthening of the vowel.

## THE HISTORICAL DEVELOPMENT

Since the quantity shift mentioned at the end of Section 1.6 took place with similar outcomes in both Icelandic and Faroese, a strict application of the comparative method would place it (like the voicelessness of plosives) in the proto-language or common West Nordic (or Icelando-Faroese). And since, as shown below, a large scale merger of the system of long and short vowels was in both cases prevented by the separate development of the two subsystems (like diphthongization of the originally long vowels and changes in the quality of the originally short ones), these processes should by the same logic be dated before the quantity changes. But the paradoxical fact is that the changes in vowel quality are widely different in Icelandic and Faroese, as we shall see in Sections 2.4 and 2.5 below. Thus, for example, the Modern Faroese correspondents of the old long monophthongs /í/ and /á/ are two diphthongs, respectively [oi] and [ɔɑ], whereas in Icelandic there is a monophthong [i] corresponding to /í/ and the MI correspondent of /á/ is a diphthong, but categorically different from the Faroese one, namely [au]. Thus although diphthongization took place in both languages, the character of the diphthongs was so different that setting up this diphthongization as a common innovation before the quantity shift is very cumbersome, if not impossible.

The problem is that, although there is a general trend or a ‘metarule’ in the sense of Árnason (1990, cf. Lass 1974) and we can say broadly speaking that both languages underwent similar changes, the development shows various complexities in detail. This also applies to the quantity shift itself, since although the general trend is obvious, the shift must be divided into such different subparts as vowel lengthening, vowel shortening, and the abolition of the structural opposition between types of syllabic quantity. Also, the results of the quantity shift differ in detail between Icelandic and Faroese, for example as in the environments of vowel lengthening before more than one consonant (cf. Árnason 1980: 12–23, 60–1). It is thus not possible to talk about a simple spread of something called ‘diphthongization’ or ‘quantity shift’, since the details of the development was different in the two languages.

And the same is true of the development of consonantal features such as aspiration resulting from the consonant shift. Although similar things happen in the two languages, there are significant differences in detail. The West Nordic characteristics are like variations on common themes, different realizations of the same basic trends, and

many of the features of Icelandic and Faroese are also to be found in West Norwegian varieties, as shown in Chapman (1962), Sandøy (2003), and Ottosson (2003).<sup>1</sup>

## 2.1 QUANTITY AND PROSODIC STRUCTURE

As mentioned above, the quantity system of Old Icelandic (and by implication CWN) distinguished heavy and light syllables. Relating quantity to segmental structure, the light syllables had short vowels as their nuclei and were followed by no more than one consonant, whereas the heavy ones were of two types, containing *either* long vowels followed by one or more consonant *or* a short vowel followed by two *or* more consonants (including geminates), as shown in (2.1):

- |       |                        |  |
|-------|------------------------|--|
| (2.1) | Light                  | Heavy                                  |
|       | <i>sat</i> [sat] ‘sat’ | <i>sát</i> [sa:t] ‘a place to sit’     |
|       |                        | <i>sand</i> [sand] ‘sand’ <sup>2</sup> |

The clearest evidence for the quantity distinction comes from Old Icelandic poetry. For one thing, light syllables cannot form an ictus on their own in skaldic metres like the *dróttkvætt*. Thus the initial syllables of forms like *boðit* ‘invited’ and *staðar* ‘place-GEN.SG’ were unable to fill the last strong position in a *dróttkvætt* line. The initial syllables of these words were then in some sense defective with respect to stress (presumably at least partly realized as increased duration) or prominence. (See sections 9.6 and 10.4 below for further discussion of the concept of prominence).

Another metrical phenomenon which sheds light on the quantity structure is the so-called resolution. By this principle, two light syllables can fill a strong position normally filled by one heavy syllable (cf. Árnason 1991: 128–33):

- (2.2)            S   W   S   W   S   W  
                    $\bigwedge$

- a. |boðit til |öls kvað |Fölski ...  
    ‘invited to ale said *Fölski* (a horse’s name)’

(Sturlunga 85)

<sup>1</sup> The socio-historical settings of the development in the two languages form an interesting contrast. In Iceland, the written norm has stayed more or less the same, whereas in the Faroes, there was no written standard until the eighteenth century, Danish serving as the official language and the language of the church. But both communities were relatively isolated, and isolation from foreign influence is generally seen to be conducive to conservatism. Furthermore both societies were relatively close knit, and according to Trudgill (1992), in such societies one is likely to find an increase of irregularity, opacity, and syntagmatic redundancy. And the isolation would probably have worked against pidginization and the loss of morphological categories. For discussion of issues relating to this, see Árnason 2003.

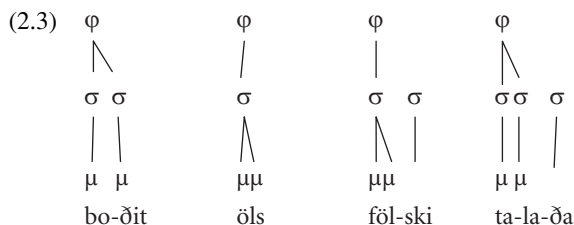
<sup>2</sup> Although transcriptions are given for the likely phonetic forms, the exact phonetic character of the forms is of course not known, e.g. we do not know exactly the phonetic character of the stops, as regards aspiration and voicing.

- S W S W S W  
 b. |undrask |øglis |landa  
 ‘wonders falcon’s lands’

(Þormóðr Kolbrúnarskáld, Lv. 25)

In (2.2a) the disyllabic *boðit* ‘invited’ fills the first strong position corresponding to the one filled by the first syllable of *undrask* ‘wonders’ in (2.2b). From such examples, it can be concluded that at some level of structure disyllabic forms like *boðit* ‘invited’ could be interpreted as equal to the heavy first syllable of *undrask* ‘wonders’ and *Fölski* ‘ash, the name of a horse’, as well as monosyllables like *öls* ‘beer-GEN’.

A way to analyse the prosodic structure of forms like *boðit* ‘invited’ and *öls* ‘beer-GEN’ is to see them, in terms of metrical theory (cf. Hayes 1995), as moraic trochees, as shown in (2.3), where a heavy syllable has two morae and the two light ones of *boðit* each supplies a mora. For polysyllabic forms like *fölski* ‘ash’ and *talaða* ‘spoke’, the final unstressed syllables are ‘unfooted’:



Another characterization of forms like *boðit* (cf. Árnason 1991: 133, cf. Allen 1973: 170 ff.) is to call them disyllabic stress matrices, which means that the two light syllables are somehow joined under one stress. In fact, this type of structure has been preserved in some Scandinavian dialects, or even reinterpreted as so-called ‘balance’, so that the two syllables of words like *gata* ‘street’, *vika* ‘week’ are somehow seen to have equal stress on both syllables or share one stress (Riad 1992: 171–234).<sup>3</sup>

The light/heavy distinction is also relevant in Old Norse monosyllables, as shown by the fact that a metrical ictus cannot be formed in *dróttkvætt* by a monosyllabic form like *sat* ‘sat’ or *son* ‘son’ or *vin* ‘friend’, when followed by a vowel. Thus a line like the one in (2.4), taken from a poem preserved in a fifteenth-century manuscript, where a light monosyllable followed by a word beginning in a vowel carries an ictus, is taken (Árnason 1980: 133–4) as a sign that the quantity shift (i.e. a lengthening of short stressed vowels) was beginning to show its effects at that time.

<sup>3</sup> Among these ‘balance’ dialects are Norwegian dialects like North-Gudbrandsdalen, and Tinn, and some northern Swedish dialects, and Finland Swedish (cf. Riad 1992: 174; Árnason 1980: 65 ff.; Kiparsky 2008). The Swedish term *kortstavighet* ‘short-syllabicity’ is sometimes used in this context. See Lahiri et al. (1999) for an overview of the development of word prosody in European languages.

- (2.4) |sínun |vin ok |tínir  
 ‘his friend and enumerates’

(Pétursdrápa 26,6)

This sort of thing does not occur in poetry older than the fifteenth century.

However, as described in Árnason (1980: 132–3, 155–6), if a consonant followed, a light monosyllable could function as heavy in the *dróttkvætt* metre. Thus, lines like those in (2.5) are well formed, since the italicized monosyllables are followed by words that begin in consonants and thus become closed and heavy (cf. Árnason 1991: 170):

- (2.5) barðisk *vel* sá's varðisk  
 ‘fought well, he who defended’

(Egill, Lv. 8,3)

skiptu *sköp* sem oftarr  
 ‘decided fate as more often’

(Sturlunga, 127,1)

*fen* dreyrugra benja  
 ‘marsh, bloody wounds’

(Sturlunga, 122,8)

*vel* hyggjum þat viggjar  
 ‘well we think it horse’

(Hallfreðr, Lv. 23,7)

Short monosyllables like *sköp* ‘fate’, *vel* ‘well’, *fen* ‘marsh’ etc. were thus metrically or prosodically ambivalent, depending on the environment. And similarly at the end of an utterance or metrical line, such monosyllables could form a catalectic ending in metres like the *runhent* and the *ljóðahátt*, as shown in (2.6):

- (2.6) a. ok öll ginnheilög *goð*  
 ‘and all very saint gods’

(Lokasenna, 11,3)

- b. Vestr fór'k of *ver*  
 ‘I went west over the sea’

(Egill Skallagrímsson *Höfuðlausn*, 1,1)

One way to analyse this is to say that, by cohesion in connected speech (as in poetic performance), the final consonant could be incorporated postlexically into the stress matrix, making the form bimoraic, as shown in (2.7a), whereas a following vowel would call for an onset, making the stress monomoraic, as shown in (2.7b):

## (2.7) a. Utterance final and medial before consonant

$\mu\mu$   
 son.# 'son'  
 vel.sá's 'well who'  
 sköp.sem 'fate which'

## b. Utterance medial before a vowel

$\mu \quad \mu(\mu)$   
 vi.n o(k) 'friend and'

Thus in final monosyllables the following consonant was moraic or prosodically active, to satisfy a constraint of FOOT-BINARITY, that is that every stress foot had to have at least two morae. This amounts to saying that final consonants were not extrametrical in the postlexical phonology.<sup>4</sup>

## 2.2 OVERLONG (SUPERHEAVY) SYLLABLES AND THEIR DEVELOPMENT

Some questions arise regarding the analysis of overlong syllables (also called 'super-heavy' or hypercharacterized, cf. Allen 1973: 66–7), that is those which had a long vowel followed by long consonants or consonant clusters, such as *átt* 'direction', and *ást* 'love' (cf. Section 1.6). Assuming that long vowels have two morae and that coda consonants, licensed by following consonants, are moraic or 'prosodically active', as in the case of *öls* (cf. (2.3) above), would imply the following trimoraic structure for forms like *ás.t* 'love' and *aus.tr* 'east', *fór.n* 'sacrifice' and *hvít* 'white':

(2.8) $\sigma$	$\sigma$	$\sigma$
$\mu \mu \mu \dots$	$\mu \mu \mu \dots$	$\mu \mu \mu$
a : s t <i>ást</i>	a u s t <sup>-5</sup> <i>aust</i>	h v i : t <i>hvít</i>
f o : r n <i>fór.n</i>		

However, the motivation for overlong or 'superheavy' as a separate prosodic category or special type of syllable in early Norse is not clear at all. Thus the metrical function of these syllables is the same as that of the normal heavy syllables, in that they form normal monosyllabic lifts in the same way as the latter. Nor is there any other

<sup>4</sup> For discussion of the prosodic ambivalence of monosyllabic nominals in Craigie's law, see e.g. Árnason 2009a.

<sup>5</sup> The final *-r*, which later developed into *-ur* by epenthesis, was most probably syllabic in Old Norse, but the first syllable was overlong by virtue of having a diphthong followed by two consonants.



evidence that such a distinction was relevant, for example in terms of stress placement or other phonological characteristics.

However, according to Riad (1992: 243), such overlong syllables existed as a separate category in Old Swedish, but only in the form of the 'underlying length' of consonants. In Riad's words: "'true" overlong [syllables contain] two underlying linked moras, i.e. there is an underlying long vowel followed by an underlying long consonant. After syllabification, this will result in three moras on the surface, the consonant providing one mora and simultaneously providing onset to the following syllable.'<sup>6</sup> According to this, Old Swedish *dootter* 'daughter' is truly overlong, whereas *mooln* 'cloud' and *blast* 'wind' with clusters following long vowels are "'false" overlong syllables'. But it is not clear that there was any difference in the prosodic character of the 'true' overlong syllables and the 'false' ones, at least in West Nordic.

And according to Sandøy (1997–98) there is no such thing as a phonologically overlong syllable in ON. With reference to Government Phonology, these are simply heavy syllables, and the extra morae in ON forms like *fó.r.n* 'sacrifice', *á.s.t* 'love', *au.s.t.r* 'east', *bá.t.s* 'boat-GEN', and *væ.n.n* 'pretty, decent' must be seen as superfluous and the consonants extra-syllabic in some sense. In fact in many cases these extra consonants represent inflectional endings and affixes, as in *bát+s*, where the *-s* is a genitival ending. In Sandøy's view the overlong syllables are in principle morphologically motivated, thus, for example, in a form like *hvít+t* 'white NEUT-SG' with a long vowel followed by a geminate, the apparent overlength is due to the morphological boundary between the stem *hvít* and the neuter ending *-t*. In fact it can be argued that in modern Norwegian dialects such overlong syllables exist, at least partly motivated by morphological levelling.

However, it is not clear how this morphological interpretation of overlength treats monomorphemic forms like *ást* 'love', where the morphological motivation for the extrasyllabicity is lacking, since there is no morpheme boundary between the consonants. Also, the morphological analysis would not work for forms like *hvít* 'white-FEM' (corresponding to neuter *hvít+t*), which are already overlong before the addition of the neuter morpheme.

Given the lack of evidence for the special prosodic status of overlong syllables, there might seem to be little reason to assume more than two values on the parameter of syllabic weight. The distinction is then binary and it is furthermore clear that the lightness of the short syllables was at this stage the less natural or the marked category. And statistically, the light syllables are much rarer than the heavy syllables, as shown by Guðjónsdóttir (1991, cf. Árnason 1991: 58–9). The light syllables are thus the special case, and their elimination was an essential part of the quantity shift.

There is, therefore, perhaps no reason to assume any sort of special status for the overlong syllables. The extra consonants in words like *á.s.t* 'love', *hvít.t*

<sup>6</sup> Riad sees this as the natural consequence of the double underlying 'quantity' distinctions on vowels and consonants, in the Nordic branch of Germanic. In our discussion below we will make a distinction between quantity and length, the former as a measure of the prosodic characteristics of syllables, but the latter as the prosodic character of segments.

‘white-NEUT’ and *hvít* ‘white-FEM’ can be treated as extrasyllabic in the manner described in Chapter 9 (pp. 150–151) for extra consonants in Modern Icelandic forms like *skips* [sci:p.s] ‘ship-GEN’ and *báts* [pau:t.s] ‘boat’ and similar examples in Faroese. (See also Kristoffersen 2000: 130–1 for a treatment of extra consonants in final position as appendices in Modern Norwegian.)

However, in a later historical perspective, the overlong syllables have a special status relative to normal heavy ones, namely as regards the shortening which took place of both long vowels and diphthongs in originally overlong syllables. Thus we have a short vowel in MI *hvítt* [kviht] ‘white-NEUT’ and *þúst* [θust] ‘hump’ and short diphthongs in *seinn* [seitn] ‘late’, *ást* [aust] ‘love’, *vænn* [vaitn] ‘decent, large’, and corresponding forms in MF. If the overlong syllables were normal open syllables, with no immediate contact with the following consonants, it is not clear why the vowel should be shortened.

## 2.3 THE COMPONENTS OF THE QUANTITY SHIFT

Although it is obviously legitimate to apply the general term ‘quantity shift’ to the change which has given the modern languages their prosodic word structure, the discussion above has shown that there is more than one aspect of this ‘revolution’. For one thing, it is possible to distinguish between the prosodic side (i.e. the effect on metrical structure, syllabification, and quantity) and the segmental side (i.e. the effect on the character of segmental oppositions). Thus although the typical elimination of the light syllable type was by lengthening of short vowels in open syllables, as in *sumar* ‘summer’, giving MI [sy:maɹ] with a long vowel, this could also happen through lengthening of consonants, as in Faroese *summar* [sum:aɹ] ‘summer’, which has a short vowel and a lengthened consonant. Similar examples are to be found in many Swedish and Norwegian varieties, among them Standard Swedish where, in some cases, the vowel has remained short, calling for gemination of the consonant in *vecka* ‘week’, unlike in *tala* ‘to speak’, which has a long vowel.

The most important part of the quantity shift was probably the elimination of the light syllables and the disyllabic stress matrices in forms like *boðit* ‘invited’. This change is evidenced in Icelandic by a change in the metrical behaviour of the historically light syllables, as described in section 2.1; such syllables became able to carry a full ictus by themselves in metres like the *dróttkvætt* and the *ferskeytt* form, belonging to the *rímur* genre. The change affected both the metrical function of old light disyllables and monosyllables, giving MI long vowels in both *tal* [t<sup>h</sup>a:l] ‘speech’ and *tala* [t<sup>h</sup>a:la] ‘to speak’ and *hik* [hi:k] ‘hesitation’ and *hika* [hi:ka] ‘to hesitate’. As described in Árnason (1980: 121–60) these changes occurred in Icelandic from the fifteenth to the seventeenth centuries, but little is known about the dates of the changes in Faroese.

There is no metrical evidence regarding the time of the shortening of vowels in forms like *ást* ‘love’. But the result was that modern forms like Icelandic *víst* [vist] ‘certain’, *báts* [pauts] and *ást* [aust] and *austur* [øystyr̥] and Faroese *Ísland* [vɪslant] ‘Iceland’, *eystur* [ɛstuɹ] ‘east’ etc. have short vocalic nuclei. Thus the MI forms in

(2.9a) (with historically long vowels or diphthongs) have the same length relations and syllabic structure as the ones in (2.9b) with historically short vowels.

- (2.9) a. *báts* [paut.s] 'boat-GEN' *ást* [aus.t] 'love' *austur* [øys.tʏ] 'east'  
 b. *vits* [vit.s] 'wisdom-GEN' *hest* [hɛs.t] 'horse' *hestar* [hɛs.taɾ] 'horses'

We can thus identify more than one phonetic and phonological component of the quantity shift. First, there was a natural tendency of **Open Syllable Lengthening** in forms like *tala* 'to talk', which was extended to monosyllabic forms like *tal* 'talk' by consonantal extrametricality. This lengthening neutralized, to a large extent, the distinction between long and short vowels, making vowel duration predictable by stress and syllabification, and, on the syllabic level, it caused the **Neutralization of Syllabic Quantity**, the prosodic difference between light syllables like *tala* and *tal* on the one hand and originally heavy syllables forms like *tála* 'deception-GEN.PL' and *tál* 'deception' on the other. All stressed syllables became heavy, which means that there was no heavy/light opposition. Thus, a new order (Stress-to-Weight) was called for, generalizing long vowels in open syllables like *ta.la* [tʰa:la] 'to speak' and *tá.la* [tʰa:la], later [tʰau:la] 'deception-GEN.PL' for the disyllables and establishing extrametricality of the final consonant in *ta.l* [tʰa:l] and *tá.l* [tʰa:l]/[tau:l]. In some instances, as we have seen, the quantity neutralization took the form of consonant lengthening, as, for example, in the case of Faroese *summar* 'summer'.

In syllables where more than one consonant followed an originally short vowel, there were two possible ways to cope with stress and lengthening. One was to syllabify clusters so as to split them between the first and the second syllable in polysyllabic forms, as in MI *hestur* [hɛs.tʏ] and MF *hestur* [hɛs.tʊɪ] 'horse-NOM' with similar structure in monosyllables like MI *hest* [hɛs.t] and MF [hɛs.t] 'horse-ACC'. In these cases, there was no vowel lengthening. But in other cases complex onsets were formed with rising sonority, in which case vowel lengthening took place in the preceding vowel, as in MI *setja* [sɛ:tja] 'to set, to place' and MF *vakrir* [vɛa:kɪɪ]. This is the origin of the modern length rules see section 9.1.3 below.

The last part of the quantity shift was then the **Vowel Shortening** in the originally 'overlong' syllables. Accounting for this shortening is perhaps the most interesting problem connected with the quantity shift. From a purely phonetic point of view, a lengthening of originally short stressed syllables seems perfectly natural, whereas the motivation for shortening a long stressed vowel (which has remained long for centuries) is less obvious. The most plausible interpretation is of course in terms of some sort of reorganization of syllable structure and a concomitant reclassification of segments from a categorization as long to a categorization as short.

Part of the problem is, as we have seen, accounting for the structure which existed before the change, that is when a long vowel or a diphthong could be followed by a consonant cluster without its length or quality being affected.<sup>7</sup> And it is worth noting

<sup>7</sup> Seeing closed syllable shortening of originally long vowels as an essential part of the quantity shift, Riad (1992: 244) notes that 'the tendency to shorten overlong syllables occurs in a late stage of the quantity shift'.

that many of the vowels which underwent shortening had already become diphthongs in the same way as other long vowels (cf. section 2.4 below). This suggests that before the shortening, they were allowed to behave like normal long vowels without any ‘disturbance’ from the following consonantism. But after the change, this freedom or independence from the following consonant was no longer allowed.

According to Riad (1992: 341), the shortening of vowels in originally overlong syllables, as the final part of the quantity shift in Swedish, is ‘an effect of the neutralization of vowel quantity’. The reason for this change is, in Riad’s words, that ‘speakers promote consonant quantity as underlying’. The basic idea behind this interpretation seems to be that the neutralization of vowel length (‘quantity’ in Riad’s terminology) would lead to some sort of phonemization of consonant ‘quantity’, the consonants becoming moraic in certain environments. But it seems that this needs some clarification, and there is a potential chicken and egg problem here over which comes first, the neutralization of vowel ‘quantity’ or the phonemization of consonant ‘quantity’.

According to Riad (1992: 343), there is a relation between ‘balance’ in Swedish dialects and overlength, so that: ‘at the point when previous balance dialects begin to exhibit a short vowel in cases like *byt.te* and *bytt*, we know that underlying vowel quantity has been abandoned.’ According to this, the loss of distinctive vowel length is manifested as a more or less simultaneous loss of ‘balance’, that is open syllable lengthening, and overlength.

But since the overlong syllables had been there for centuries, it is not clear why they were made illegal by the lengthening of short vowels in open syllables, and since the system still distinguishes between long and short vowels, for example as in *tal* [ta:l] ‘speech’ and *tål* [tʰa:l]/[tau:l] ‘treachery’ vs *taldi* [talɫi] ‘considered’, the question is why the long vowels in the overlong syllables like *ást* ‘love’ were not allowed to remain as such, identifying themselves prosodically and melodically with the long vowels in forms like *tál*. Furthermore, overlength—that is, long vowels before consonant clusters that do not form onsets to following syllables—is possible without the presence of light syllables or balance in the same system, as we will see in Chapter 9, where it is shown that such syllables are common in both Modern Icelandic and Modern Faroese, as well as Norwegian and Swedish.

We propose to analyse here the shortening of old long vowels in West Nordic in terms of syllable structure, connecting the vowel shortening in originally overlong syllables with the **lack of lengthening** in the quantity shift of the stressed vowel in forms like *hestur* [hɛs.tʏɾ]. From the point of view of syllable structure, the most plausible interpretation of what happened in forms like *hestur* ‘horse’ was that the postvocalic consonant was included in the rhyme as a recipient of stress, giving something like [hɛs.tʏɾ] with the vowel-consonant (VC) rhyme forming a stress matrix. This amounts to saying that the consonant became moraic or prosodically active. Once this structure, with moraicness of the consonant instead of the preceding vowel, was established, it could be extended to originally overlong forms like *ást* by including the

postvocalic consonant into the rhyme of the preceding syllable (except in the case of rising sonority, i.e. in forms like *ríkra* [ri:kra] ‘rich-GEN.PL’), as shown in (2.10):

- (2.10) /a:..s. t/ [au:st] > /aus.t/  
           *ást* ‘love’  
           /a u. s.t. r/ [øy:str] > /øys.tr/  
           *aust-r* ‘east’

Thus, in pre-shortening forms like *ássins* OI [ɔ:..s.sins]/[aʊ.s.sins] ‘the god-GEN’ and *ástin* OI [ɔ:..s.tin]/[aʊ.s.tin] ‘the love’ (where consonant length is represented as gemination and there is loose contact between the long vowel and the following consonant) the structural change is that the first part of the geminate and the first consonant of the cluster become part of the rhyme, functioning as a stress matrix. In terms of morae, the essence of the vowel shortening part of the quantity shift is then the movement (at least in part) of the ‘moraicness’ from the long vowel to the following consonant, which is to say that the vowel loses a mora. This results in the (early) MI structures [aus.sins] [aus.tin] for *ássins* and *ástin*. It is important to note that the same thing happens in *ás.sins*, which has a historical geminate, and in *ás.tin*, which has a cluster, and which in turn has the same type of structure as *hes.tur*. The result is the creation of the V: / VC paradigm for the rhyme as a carrier of stress, which is the essence of the Modern systems, as described in Chapter 9.<sup>8</sup>

The outcome of these changes is what we will call the ‘New Order’ in quantity, which is valid in both MI and MF, where there is no distinction in syllabic weight in Icelandic syllables and the full (as opposed to restricted) syllables of Faroese. Two types of rhyme are to be found, either consisting of long (in our view prosodically normal) vowels or of short (in our view prosodically less normal) vowels followed by consonants. Rhymes are lengthened under stress; in open syllables, the lengthening is realized on the vowel, but in closed syllables, the lengthening is realized on the consonant following the short vowel (cf. Chapters 9 and 10).

## 2.4 QUALITY CHANGES IN THE ICELANDIC VOWEL SYSTEM

From the point of view of the system of segmental oppositions, the vowel lengthening part of the quantity shift involved a threat of the merger of originally long and short vowels with the same or similar quality. Thus the lengthened variant of the originally short /i/ in *litur* ‘colour’ to [i:] might have merged with the originally long [i:] in *litur* ‘looks’, and so forth for other historical long and short pairs. However, this large scale merger was avoided in both languages by changes in vowel quality, most importantly

<sup>8</sup> One of the consequences of this structure is the appearance of the so-called ‘half length’, which is typical of Modern Icelandic and Modern Faroese (and many other contemporary Nordic varieties). And this lengthening is in fact known to occur in other Germanic varieties, including Middle English, as represented in the *Ormulum* (cf. Murray 2000). This structure will be further described in Part III (Chapters 8-11).

by diphthongization in old long vowels, but also by some changes in the quality of the originally short vowels.

The diphthongization of historically long vowels in Icelandic is shown in (2.11). As can be seen, the result can either be a closing diphthong, as in the case of historical *æ*, *á*, and *ó*, or an opening one, as in the case of *é* :

- (2.11) *æ* /æ:/ > [ai] *læt* [lai:tɪ] 'I let-PRES'  
*á* /a:/ > [au] *láta* [lau:ta] 'to let'  
*ó* /o:/ > [ou] *fótur* [fou:tyɾ] 'foot'  
*é* /e:/ > [iɛ]/[jɛ] *lét* [ljɛ:t] 'I let-PAST'

Diphthongization of long vowels is of course not a surprising development generally speaking, but it seems that the conditions for this to happen were particularly favourable in OWN because of the complex system of vowel colours (nine if they are all counted).<sup>9</sup> As mentioned above, this richness in vowel colours was originally the result of Proto-Nordic umlaut, basically i-umlaut and u-umlaut, by which the colour of unstressed vowels was incorporated, as it were, into the preceding stressed vowels (cf. Benediktsson 1970a: 94 ff.). The umlauts were connected with neutralization in the form of syncope in the unstressed vowels, with part of the 'information' moved into the root vowel, as in *\*barnu* → *børn* 'children' (cf. sg. *barn* 'child') and *\*lāti* [la:ti] → *læt* [læ:t] 'I let' (cf. pres. *láta* 'to let'). The umlauts thus involved a movement of vowel colour from the syntagmatic plane to the paradigmatic one; a sequential relation A>I ([a ... i]) in *\*lāti*, the reconstructed form for Proto-Nordic, becomes a paradigmatic one in the mixed [æ] in OI *læt* 'I let' with simultaneous (or co-catenated) A, I. (Cf. section 3.2.2 for a description of the element notation.)

Seen in this light the later diphthongization which gave the diphthong [ai] in MI *læt* [lai:tɪ] 'I let' involves a return to a sequential relation: A>I. And the development of the root vowel of the present indicative 1.p of the verb 'to let' can then be described in terms first of a fusion of the elements A and I and later as fission of the same elements. In fact it seems that this metaphor of fusion and fission (cf. Schane 1984, 1987, 1989, 1995), which sees diphthongization as the separation of vocalic elements in 'mixed' segments, is very useful when it comes to giving a coherent account of the segmental developments in our two languages.

The new (falling and closing) diphthongs, which developed in Icelandic—/ai/, /au/, and /ou/, as in *læti* [lai:tɪ] 'commotion', *láta* [lau:ta] 'to let', and *fótur* [fou:tyɾ] 'foot', are natural results of the fission of elements present in the original monophthongs: [æ:], [ɔ:] and [o:]. These new diphthongs are then added to the inventory of diphthongs, originally /au/ as in *bauð* 'ordered, invited', /ei/ as in *leit* 'looked' and /øy/ (written <ey>) as in *reykr* 'smoke'. But at the same time some changes take place in the old diphthongs: old *au* being fronted to [øy] and the old front rounded /ey/ being delabialized and merging with old *ei*. As was shown in (2.11) the result of the diphthongization of old long /e:/ as in *fé* 'money, sheep', *hét* 'was named',

<sup>9</sup> Although diphthongs are less common in Danish, East Norwegian, and Swedish varieties, dialects like Scanian have developed a rich inventory of diphthongs, see e.g. Bruce (1970).

was originally a rising diphthong [ie], which in MI has the reflex [jɛ], as in *fé* [fjɛ:], *hét* [çɛ:t].

In addition to this strong tendency for diphthongization, several other developments have caused changes in the quality of Icelandic vowels, sometimes involving mergers. One of the first events of this type was the abolition of short *ø* (front mid rounded). This sound had arisen through umlaut, on the one hand by rounding of Proto-Nordic /e/ through u-umlaut (*søkkva* < \**sekkwa(n)* ‘to sink-INTRANSITIVE’), and on the other by fronting of Proto-Nordic /o/ by i-umlaut (*øxn* < \**oxniR* ‘bulls’) and in some cases, as in *göra* (< \**garwian*) ‘to do’, fronting and rounding of Proto-Nordic /a/ by the combined effects of i-umlaut and u-umlaut (see Árnason 1992b).

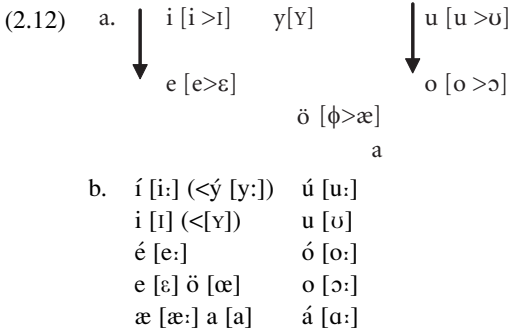
The first step in the disintegration of this sound was that in thirteenth-century Icelandic and later, some members of the phoneme /ø/ underwent **delabialization** to /e/, as in MI *gera* ‘to do’ (most likely in connection with a delabialization in the long system, cf. below). In other cases, for example the verb *søkkva* ‘to sink-PRES’, /ø/ merged with the originally back rounded /o/ of *søkk* ‘sank’ (the past tense of the strong verb *søkkva*), resulting in the MI paradigm *sökkva* – *sökk* with the same vowel in both forms. This merger was most likely caused by **fronting or centralization** of /o/.

The delabialization which affected short *ø* was part of a general (and of course natural) trend of unrounding of front rounded vowels which affected the Icelandic vowel system as a whole. It affected the long correspondent *ó* [ø:], in forms like *dóma* ‘to judge’, which (around 1200) merged with the originally unrounded *æ* [æ:] in *læti* ‘life, commotion’. In MI both of these forms have the diphthong [ai] (*dæma* [tai:ma], *læti* [lai:ti]), with [æ] resulting from the merger of *ó* and *æ* as an intermediate stage. A further effect of delabialization was the later unrounding of front high rounded /y/, mostly in the fifteenth and sixteenth centuries (cf. Gunnlaugsson 1994). This time both long and short vowels were affected in more or less the same way, so that a merger occurred in both the long and the short systems. Thus the form *skýra* ‘to explain’, with an originally rounded vowel, became homophonous with *skíra* [sci:ra] ‘to baptize’, which, as indicated by the spelling, had an unrounded vowel in OI; similarly *skyn* ‘perception, sense’, *skin* ‘shine, brightness’ are both pronounced [sci:n] in MI.

Interestingly, the delabializing ‘attack’, aimed at eliminating front rounded vowels was counterbalanced in the short system by a fronting or centralization of back rounded vowels. Among such vowels was the old short /o/ (the outcome of the merger of *ø* and *o*) in *søkkva* ‘to sink’, *fogur* ‘beautiful-FEM’ (MI respectively [sœhkva] and [fœ:ʏʏ]). Actually, it is likely that the fronting or centralization of old /o/ was part of the merger with /ø/ in the thirteenth century. Another back vowel to be fronted or centralized was /u/, as in *undir* ‘under’ and *suður* ‘south’ (MI [yntɪr] and [sy:ðʏɛ] respectively). This fronting was probably not complete until after the delabialization of old short /y/. This is so because the fronting of the ‘lax’ rounded vowel in *suður* ‘south’ and *spurði* ‘asked’ would have threatened to merge with the lax front rounded vowel in *spyrja* ‘to ask’. This merger only happened in exceptional cases, as shown by the variant pronunciation [spyrja] beside [spɪrja] of *spyrja* ‘to ask’ (cf. Árnason 1992b, 2005a: 336).

Another shift type of occurrence in the history of Icelandic vowel qualities was a general **lowering of short vowels**. As can be seen from the modern pronunciation of

forms like *skip* [sci:p] ‘ship’ and *gefa* [cæ:va] ‘to give’, a lowering has taken place of old short /i/ to [ɪ] and a corresponding lowering of old short /e/. A similar lowering and centralization also affected old short rounded vowels. In the case of /o/ the MI pronunciation is [ɔ] for old /o/ in *koma* [k<sup>h</sup>ɔ:ma] (or [koɔ:ma]) ‘to come’. For the other old back rounded vowels, centralization and (later) fronting has given [ʏ] for old (fronted) /u/ in *suður* [sy:ðʏɾ] ‘south’, and MI [œ] in *sökkva* [sœhkva] ‘to sink’ and *sök* [sœ:k]/[syœ:k] ‘guilt’. This lowering is shown schematically in (2.12a), and the relation between the long and the short systems immediately before the lengthening part of the quantity shift can (with some simplification) be pictured as in (2.12b):



As suggested by the parentheses, the high front rounded *ý* [y:] and *y* [ʏ] were delabialized and merged with *í* and *i* at about the same time as open syllable lengthening (i.e. in the fifteenth to sixteenth centuries).

## 2.5 FAROESE VOWEL DEVELOPMENTS

As already mentioned, the old long (pre-quantity shift) vowels are affected by diphthongization in an even more drastic way in Faroese than in Icelandic, and the outcome of Faroese diphthongization is in fact markedly different, as shown by the overview in (2.13).<sup>10</sup>

(2.13)	Faroese	Icelandic
/í/	> [ʊi] <i>ís</i> ‘ice’	—
/ý/	> [ʊi] <i>brýna</i> ‘to sharpen’	—
/ú/	> [œu] <i>hús</i> ‘house’	—
/ó/	> [ɔu]/[œu] <i>stórir</i> ‘big’	[ɔu]
/á/	> [ɔa] <i>bátur</i> ‘boat’	[au]
/æ/	> [ɛa] <i>hætur</i> ‘heel’	[ai]
/a/	> [ɛa] <i>matur</i> ‘food’	—
/é/	> [ɛa] <i>læt</i> ‘let’	[ie]

<sup>10</sup> Referring to the different socio-historical conditions mentioned in Fn. 1, p. 12, it is possible that the difference in the phonological development of the two languages, and indeed the fact that there are much greater dialect differences in Faroese than in Icelandic, is due to the fact that in the former case the spoken language developed ‘naturally’ and free of any standardizing effects from the written norm. See Rischel (1967–68) and Hansson (1983) for earlier work on the phonological history of Faroese.



The only vowel which had a similar fate in both languages was the old long /ó/ [o:], giving MI [ou] and MF [ɔu], and there are dialect differences in Faroese regarding the pronunciation of this vowel, which complicate the picture even further. In part of the area, the diphthong has a front first constituent, [œu], and in some idioms the first part is unrounded, giving [ɛu] or even [au] (in Nólsoy).

But in spite of this complexity the Modern Faroese diphthongs can, as we shall see in Chapter 5, be classified in a fairly straightforward way according to their second components as closing (having [i] or [u] as their second components) or opening (ending in [a] or [ɑ], sometimes also called floating diphthongs), and one of the differences between MI and MF is that Icelandic does not have opening diphthongs (unless as fairly low level variants of mid vowels like /ɔ/, /ɛ/, and /æ/, cf. section 8.1.1).

It is interesting to note that Faroese diphthongizes the 'pure vowels' /i:/ and /u:/ in words like *síla* 'to sieve', MF [sɔi:la] and *súla* 'a pillar' [sœu:la]. This may seem to contradict the hypothesis hinted at on p. 21 above section 2.4, p. 2 that diphthongization is motivated by fission in mixed vowel colours. But there is more to this than meets the eye, since before the diphthongization some other things occurred in the Faroese system, which make the diphthongization in MF *ís* [vi:s] and *hús* [hœu:s] look more plausible.

Unlike Icelandic, there was no lowering of old short high vowels in Faroese. Thus the old short /i/ in *síla* 'to fertilize (of fish)', which gives MF [si:la] and old short /u/ in *gulur* 'yellow' MF [ku:lɔɹ] kept their colour. The corresponding Icelandic forms have non-high (and/or centralized) vowels in forms like MI *síla* [sɪ:la] 'loop-ACC' and *gulur* [kʏ:lʏɹ] 'yellow'. Thus in Faroese there was a potential threat of a merger of the lengthened vowels in *síla* 'to fertilize' and *gulur* 'yellow' with old long /i:/ and /u:/. This merger did not occur, however, and in a teleological metaphor it could be said that the merger was avoided by diphthongizing the original long high (or tense) vowels. In Icelandic the potential merger caused by vowel lengthening did not take place because of the lowering the old short vowels, compare pairs like *víti* [vi:ti] 'lighthouse' vs *víti* [vi:ti] 'penalty, hell' and *súð* [su:θ] 'panel' vs *suð* [sy:θ] 'buzzing'. Another thing to note here is that as in Icelandic there was a merger of old /i/ and /y/ in Faroese. We saw in Section 2.4 that the Icelandic merger happened through the delabialization of the /y/. But in Faroese the phonetic conditioning was different. True, the old short /y/ was delabialized, as in *systir* 'sister' and *fýri* 'for', MF [sɪstɪɹ], [fi:ɹ], but in the old long vowels, the merger happened through labialization of long [i:]. And once the vowel of *ís* 'ice' became rounded, something like [y:s], the road was open for fission to [vi:] in the same way as in *sýra* 'acid'; in other words, fission affected the rounded outcome of the merger. We will return to these problems in section 3.4. (See Rischel 1967–68 for a fairly detailed description of the development of the Faroese vowel system in the light of dialectal differences.)

The fact that old long /y:/ keeps its rounding shows among other things that delabialization was not as pervasive in Faroese as in Icelandic. Also the mid rounded /ø:/ kept its rounding as in MF *døma* [tœ:ma], compare Icelandic *dæma* [tai:ma] 'to

judge'. But we saw that delabialization affected short /y/ in Faroese, as in *systir* [sɪstɪɹ] 'sister' and *fýri* [fɪ:ɹɪ] 'for', and in some cases short /ø/ as in *kemur* [tʃe:muɹ] 'comes', OWN *kømr* (but not in *søkkur* [sœ<sup>h</sup>kuɹ] 'sinks', compare Icelandic *sekkur* [sehkʏɹ] 'sinks'). And in some cases delabialization and fronting goes further than in Icelandic, as, for example, in the case of the old /au/ in *kaupa* 'to buy' (OI: [k<sup>h</sup>au:pa], MI [k<sup>h</sup>øy:pa]), which in Faroese is *keypa* [tʃei:pa] 'to buy'.

## 2.6 THE SHORT DIPHTHONGS

The combined effects of the vowel shortening part of the quantity shift and diphthongization led to the development of short diphthongs in both MI and MF. Thus the short diphthongs in forms like Icelandic *ást* [aust] 'love' and *austur* [øystʏɹ] 'east', *hreysti* [ɹeistɪ] 'valour', *rósta* [rousta] 'skirmish', and *næstur* [naistʏɹ] 'next' have come about by shortening of diphthongs, some of which originally derive from long OWN vowels by diphthongization. Similarly, the short diphthongs in Faroese *Ísland* [vɪstlant] 'Iceland' and *ein* [ain] / [ɔin] 'one' and *gloymdi* [klɔimtɪ] 'forgot' have come about through shortening, in some cases of original old diphthongs, but in other cases of diphthongs which developed more recently by fission.

But there are instances of diphthongs which have come about by means other than fission in (long) vowels. An example of this is the development before a velar nasal in Icelandic forms like *langur* [laʊŋkʏɹ] 'long-ADJ' *lengi* [leɪŋci] 'long-ADV' and *lōngum* [løyŋkʏm] 'long-DAT.PL'. (Similar things happen in Norwegian dialects, see Sandøy 1997–98: 64 and references.). The most plausible phonetic account of this seems to be to assume an epenthesis, so that a high element (I or U) was inserted between the vowel and the following velar or palatal nasal. Another instance of epenthesis of this sort, creating a short diphthong, is to be found in words like *skald* 'poet', which has the modern reflex *skáld* [skaʊlt] with a diphthong. It is perhaps not clear how to interpret the prosody in these cases. But assuming a lengthening before these clusters, creating long vowels, which then diphthongized along with other long vowels, is incompatible with the MI vocalism in forms like *lengi* [leɪŋci] 'long-ADV' and *lōng* [løyŋk] 'long-FEM'. Although in some cases the resulting diphthong is the same as that corresponding to old long vowels (as, e.g., in *langur* [laʊŋkʏɹ] 'long-MASC', which has the same melody as *láta* [lau:ta] 'to let' and *ást* [aust] 'love'), in other cases the diphthongal melodies are different from the normal MI correspondents of older long *é* as in *lét* 'let-PAST', MI [lɛ:t].

Faroese also shows some signs of diphthongization or raising before a velar nasal. Thus the MF reflex of ON *langr* is *langur* pronounced [lɛŋkuɹ], with [ɛ] corresponding to historical [a], which may have developed through diphthongization to [laɪŋkuɹ] (similar to what happened dialectally in Icelandic, cf. Árnason 2005a: 392), which then was contracted to mid front [ɛ]. Another sign of diphthongization of short vowels is the pronunciation [tɹɔɪŋtʃɪɹ] for *drengir* 'boys' (cf. sg. *drongur*

[tɹɔŋkʊɪ]), which is most likely due to epenthesis of a high glide before the palatal nasal [ɲ] in the plural.<sup>11</sup>

But there is an obvious tension between the diphthongal trend and the shortening trend. In many instances (potential) short diphthongs are realized as monophthongs in the modern languages, particularly in Faroese. This is the case in forms like *keypti* [tʃɛ<sup>h</sup>ptɪ] ‘bought’, *rópti* [ɹœ<sup>h</sup>ptɪ] ‘shouted’, and *fílt* [fʏɪt] ‘foul-NEUT’ corresponding to long diphthongs in *keypa* [tʃ<sup>h</sup>ei:pa] ‘to buy’, *rópa* [rou:pa] ‘to shout’, and *fúlur* [fœu:lʊɪ] ‘foul-MASC’. Other instances of morphophonemic alternation between diphthongs and monophthongs are seen in *bátur* [pɔɑ:(<sup>h</sup>)tʊɪ] ‘boat’ vs *bátismaður* [pɔ<sup>h</sup>tismeavʊɪ] ‘boatsman, shipmate’ and *spakur* [spea(<sup>h</sup>)kʊɪ] ‘calm’ vs *spakt* [spa<sup>h</sup>kt] ‘calm-NEUT’. In some cases this monophthongization is sporadic or conditioned by special environments like a following /r/, thus the past tense *koyrði* ‘drove’ has a monophthong: [k<sup>h</sup>ɔɪtɪ], and the plural *koyrlar* ‘whips-PL’ is pronounced [k<sup>h</sup>ɔɪɹaɪ] (cf. sg. *koyril* [kɔiɹɪɪ] ‘whip’). Also, in parts of Sreymoy (e.g. in Kollafjørður), it is common for words like *týskt* ‘German-ADJ’ to be pronounced with a monophthong: [t<sup>h</sup>ʊkst] (Hjamar P. Petersen p.c.).

There is also a tendency in Modern Icelandic toward monophthongization in forms like *kjóll* ‘dress’ and *hækkaði* ‘rose’, which beside the ‘clear’ pronunciation [c<sup>h</sup>outɪ] and [haihkaði] may be pronounced as [c<sup>h</sup>otɪ] and [hahkaði] (cf. Árnason 2005a: 422–4). These tendencies will be further discussed in section 8.1.4.

## 2.7 THE WEST NORDIC CONSONANT SHIFT

We saw in section 1.2 that on comparative grounds it is usually assumed that in Germanic and Proto-Nordic the distinction between fortis /p, t, k/ as in OI *pallr* [pal:r] ‘platform’ *tala* [tala] ‘to speak’ and *kalla* [kal:a] ‘to call’ and lenis /b, d, g/ as in OI *bera* [bera] ‘to carry’ *dala* [dala] ‘valley-GEN.PL’ and *gala* [gala] ‘to crow’ was based on voicing. And for Proto-Nordic, due to the fact that Proto-Germanic voiced stops became fricatives intervocalically, this opposition was neutralized in foot-medial position, the voiceless stop being the only option (cf. section 1.2 above), for example in words like *skapa* [skapa] ‘to shape’ *láta* [la:ta] ‘to let’ and *taka* [taka] ‘to take’. In this situation it can be assumed that voicing was the marked value in the opposition and that the plain, voiceless, stop was the unmarked member of the opposition (Harris 2006).

But as can be seen from the Modern Icelandic pronunciation: *pallr* [p<sup>h</sup>atɹɪr], *tala* [t<sup>h</sup>a:la], and *kalla* [k<sup>h</sup>atla] for the fortis stops and *bera* [pɛ:ra], *dala* [ta:la], and *gala* [ka:la] for the lenis ones, a change has taken place so that now the fortis consonants are voiceless aspirated, and the lenis ones are voiceless and plain. The

<sup>11</sup> According to Thráinsson et. al. (2004: 396) the rounding in [tɹɔŋkʊɪ] and [tɹɔɪŋtʃɪɪ] corresponding to OWN *drengir* and *drengir* is the result of a ‘general change of /ei/ > [ɔi, ɔ] before velars (and palatals)’, i.e. the first step in the development in [tɹɔɪŋtʃɪɪ] was the epenthesis of an I-element after a short vowel, and then the rounding, which also occurred in forms like *boksl* [pɔksl] ‘bridle’ (MI *beisli*) and *rokna* ‘to calculate’ (MI *reikna*) affected both the monophthong and the diphthong. But it seems that pronunciations [lɛŋkʊɪ] for *langur* indicate that this development was sporadic and there seem to be some complications.

essence of this consonant shift was that, at some stage, a change took place in foot-initial position from an opposition based on voicing or the presence or absence of [L] to one based on aspiration or the absence or presence of [H] ([spread glottis]). Thus for a pair like MI *tala* ‘to talk’ vs *dala* ‘valley-GEN.PL’, instead of an earlier distinction based on voicing [tala] vs [dala], the distinction becomes [t<sup>h</sup>a:la] vs [ta:la]. Both Icelandic and Faroese took part in this shift, and traditional comparative reasoning would tell us that this must have taken place before the West Nordic split into two dialects and later two languages.

However, another interpretation of the history (suggested by Hansson 2001) is that Icelandic and Faroese represent the remnants of an older system, which was indigenous to the whole Nordic area. This would then mean that the aspirating opposition was superseded in some southern and eastern areas by a system based on voicing, imported from the south-east. The new articulatory setting, this story goes, never reached the isolated and conservative north-west, which retained the old order of distinguishing between hard and soft consonants by aspiration, which could be realized either before the stop as in preaspiration in *vakna* [va<sup>h</sup>kna] ‘to wake up’ and devoicing in *vanta* [vaŋta] ‘to need’ or postaspiration, as in *tala* [t<sup>h</sup>ala].<sup>12</sup>

There seem, however, to be some problems with the idea that aspiration was an old inheritance in the area. For one thing, evidence from older poetry seems to show that there was no preaspiration, at least in the form we know it from Modern Icelandic. Thus the following couplet in *dróttkvætt* by the eleventh-century skald, Þjóðólfr Arnórsson has two instances of rhyme which would not fit the modern order regarding aspiration:

- (2.14) *Skotit frá’k skeptiflettum*  
*skjótt ok mörgu spjóti*

‘I heard that javelins and many a spear were quickly thrown’

(Magnúsflokkur 9,1–2).

This rhyme shows that at the time of the composition of the lines, preaspiration, at least in its modern Icelandic form, had not developed in the form *skjótt* ‘quickly’ and *skeptiflettum* ‘spears, arrows-DAT’. The modern language has preaspiration in *skjótt* [scouht] ‘quickly’ and *fletta* ‘to peel’ [flɛhta], but not in *skotið* [sko:tɪθ]/[sko:t<sup>h</sup>ɪθ] ‘shoot-PAST.PART’ or *spjóti* [spjou:tɪ]/[spjou:t<sup>h</sup>ɪ] ‘spear-DAT’. This mismatch would have spoiled the rhyming relation if preaspiration had the present form.

But we must note, however, that the rhyme does not tell us that there was no aspiration in these stops, and thus that the fortis–lenis opposition was based on voicing alone. It is still possible that the stops had some aspiration due to a distinction based on spread glottis. The rhyme only shows that the modern Icelandic distribution, which limits the occurrence of preaspiration to a position between a short vowel and a fortis plosive, leaving postaspiration or no aspiration for other environments, was not yet in effect. And it is conceivable that the stops, both the geminates and the single ones in (2.14), had

<sup>12</sup> Another possibility is to see the aspiration as being due to a substratum in the area where it originally occurs, perhaps from Sami or varieties of Scottish Gaelic.

a weak (pre-)aspiration, similar to that seen in Modern Faroese, that is something like [sco:<sup>h</sup>t:] for *skjótt* ‘quickly’ and [sko:<sup>h</sup>tɪt] for *skotit* ‘thrown’. (For a discussion of the synchronic character of preaspiration in MI and MF, see Chapter 11.)

The development in Icelandic and Faroese is similar, although the details are once more different. The fortis–lenis opposition in Faroese is expressed by aspiration, and the plain stop is basically voiceless: *dal* [tɛa:l] ‘valley’ vs *tal* [t<sup>h</sup>ɛa:l] ‘number’, *brestur* [pɹɛstɔɹ] ‘sudden noise’ vs *prestur* [p<sup>h</sup>ɹɛstɔɹ] ‘priest’, *gusan* [ku:san] ‘strong wind’ vs *kusan* [k<sup>h</sup>u:san] ‘the udder’. But in some areas voicing has been noted in intervocalic position (cf. section 7.2.1). Preaspiration has developed in historical geminates in Faroese, and in clusters like *tl*, *tn*, etc, as shown in (2.17):

(2.15) *hoppa* [hɔ<sup>h</sup>p.pa] ‘to hop’    *tvætla* [t<sup>h</sup>va<sup>h</sup>t.la] ‘to babble, chat’

As we shall see more clearly in Chapter 11, the preaspiration is realized differently in MI and MF.

Phonetic detail aside, the functional aspect of the consonant shift is that it is, in some sense at least, a positionally conditioned chain shift, since a contrast is maintained in foot-initial position in spite of a change in the phonetic character of segments, and the foot-internal position remains one of neutralization. However, in both Icelandic and Faroese, a dialect difference prevails between what, in the case of Icelandic, has been called ‘hard speech’ (*harðmæli*) and ‘soft speech’ (*linmæli*) (cf. e.g. section 6.2.3). (The former is typical of northern dialects, both in Iceland and the Faroes, whereas the latter is a southern characteristic.) The hard speech has aspirated stops in the relevant forms: *taka* [t<sup>h</sup>a:k<sup>h</sup>a] ‘to take’, and *bátur* [pau:t<sup>h</sup>ʏt] ‘boat’; whereas the soft dialect is without aspiration intervocalically. Similarly, northern varieties of Faroese tend to have aspiration (postaspiration or preaspiration) in word-internal position (and then only after non-high vowels), whereas southern ones have unaspirated medial stops (see section 7.2.2 for details).

In the traditional vocabulary of both modern languages the neutralization between fortis and lenis consonants in postvocalic position, as in *taka* ‘to take’ and *bátur* ‘boat’, stays in place. In the ‘soft’ dialects, which do not have medial aspiration, the intervocalic stops were not shifted phonetically, although their allegiance or identity was changed from that of the fortis member of the opposition to the lenis one. Assuming that the forms *taka* ‘to take’ and *bátur* ‘boat’ had intervocalic voiceless (plain) plosives in Old West Nordic, the shift from voicing to aspiration in initial position could take place without changing the phonetic characteristics of the internal stops as plain or unmarked. So, from this point of view, the ‘hard’ dialects go a step further than the soft ones in the development, since the former aspirate all stops, regardless of position.

## 2.8 NEW POSTVOCALIC STOPS

As described in Árnason (1990, see also Árnason 2005a: 352–3), there is a tendency in the history of Icelandic (and as we shall see in Faroese) for fricatives to become stops in intervocalic clusters, particularly in contact with sonorants. One such change

is when labial and velar fricatives become stops before *l* and *n* in words such as *efla* ‘to strengthen’ (OI [eβla]/[evla] > MI [ɛpla] and *sigla* ‘to sail’ (OI [siɣla] > MI [sɪkla]).

This development has led to the appearance of minimal pairs, where preaspirated stops contrast with plain ones in interludes. A number of these pairs from Icelandic are listed in (2.16):

- |        |  |  |
|--------|--|--|
| (2.16) | <i>epla</i> [ɛhpla] ‘apples-GEN’         | <i>efla</i> [ɛpla] ‘to strengthen’         |
|        | <i>mikla</i> [mɪhkla] ‘great-ACC.SG.FEM’ | <i>mygla</i> [mɪkla] ‘mildew’              |
|        | <i>vakna</i> [vahkna] ‘to wake up’       | <i>vagna</i> [vakna] ‘wagons-ACC’          |
|        | <i>frekna</i> [frɛhkna] ‘freckle’        | <i>fregna</i> [frɛkna] ‘to be informed’    |
|        | <i>fatla</i> [fahtla] ‘sling-ACC’        | <i>falla</i> [fatla] ‘to fall’             |
|        | <i>alla</i> [atla] ‘all’                 | <i>Atla</i> [ahtla] ‘Atilla, a man’s name’ |

Further pairs of this sort developed through the pre-stopping of laterals and (dental) nasals in forms like *kalla* [k<sup>h</sup>atla] ‘to call’ (OI [k<sup>h</sup>al:a]) and *fínni* [fitni] ‘fine-COMPARATIVE’ (OI [fin:i]), which have rhymes contrasting with those of modern *katla* [kahtla] ‘kettles-GEN.PL’ and *skitnum* [scihtnym] ‘the dirt-DAT.SG.DEF’. And there may be reason to make a connection between this development of stops and preaspiration as a part of the consonant shift discussed in the preceding section. In a push chain metaphor, pre-stopped *kalla* [katla] ‘call’ may be seen as putting pressure on *katla* [kahtla] ‘kettles-GEN’ to preaspirate.<sup>13</sup>

Examples from Faroese showing similar development are listed in (2.17):

- |        |  |  |
|--------|--|--|
| (2.17) | <i>fatla</i> [fa <sup>h</sup> tla] ‘to put in a sling’   | <i>falla</i> [fatla] ‘to fall’                 |
|        | <i>Katli</i> [ka <sup>h</sup> tli] ‘think, expect-1.sg.’ | <i>kalli</i> [k <sup>h</sup> atli] ‘call-1.SG’ |
|        | <i>lækna</i> [lai <sup>h</sup> kna] ‘doctor-ACC.PL’      | <i>lagna</i> [lakna] ‘destiny’                 |

These examples raise the question whether the co-occurrence of preaspiration and ‘pre-stopping’ is a coincidence. The free development of the stop in *efla* [ɛpla] ‘to strengthen’ would have led to a merger with *epla* ([ɛpla] > [ɛhpla]) ‘apples-DAT.PL’, if it weren’t for the aspiration. It is possible to see the development here as a chain reaction, involving a phonetic shift, so that a pre-existent opposition is retained (push chain), or that the development of aspiration was some sort of prerequisite for the emergence of the stops in *efla* and other cases of the same sort (drag chain).

We saw that, as in Icelandic, unaspirated stops have developed in Faroese, through pre-stopping of long or geminate /n/ and /l/ and also of /r/ and /rl/, creating a contrast between preaspirated and plain stops, as shown in (2.18):

- |        |  |   |
|--------|--|---|
| (2.18) | <i>oynni</i> [ɔitni] ‘the island-DAT’, <i>seinni</i> [saitni] ‘later’  | <i>terna</i> [t <sup>h</sup> ɛtna] ‘tern’ |
|        | <i>fjallið</i> [fjatli] ‘the mountain’, <i>kalla</i> [k <sup>h</sup> atla] ‘to call’, <i>valla</i> (< <i>varla</i> ) [vatla] |   |
|        | ‘hardly’ <i>jallur</i> (< <i>jarl</i> ) [jatlu] ‘earl’, <i>vegrar</i> [vɛkɹaɹ] ‘rams’ <sup>14</sup>                          |   |

<sup>13</sup> It is interesting to note that in some Sami varieties, which have preaspiration, there is also pre-stopping, and this is probably also true of some Norwegian dialects.

<sup>14</sup> But unlike in Icelandic intrusive [ft] (cf. pp. 251–252) does not occur in Faroese, as shown by MF forms like *erla* ‘bird’ [ɛrla] and *farnir* [farnu] ‘gone-PL’, as opposed to MI [ɛrtla] and [fartnɪr].

And as in Icelandic, stops have developed from original fricatives, although the details of the changes are different as shown by the examples in (2.19):

- |        |                             |                              |   |
|--------|-----------------------------|------------------------------|---|
| (2.19) | OI                          | MI                           | MF  |
|        | <i>veðrið</i> ‘the weather’ | <i>veðrið</i> [vɛðrɪθ]       | <i>veðrið</i> [vɛkɪɹ] <sup>15</sup>       |
|        | <i>lögðu</i> ‘they laid’    | <i>lögðu</i> [lœɣðɣ]/[lœkðɣ] | <i>løgdu</i> [lœktu] ‘laid’ <sup>16</sup> |

A notable difference between Icelandic and Faroese is in the development of the labial fricative before /l/. In Icelandic, both the velar and the labial fricative have become stops, as in *tafl* [t<sup>h</sup>apɿ] ‘chess’ and *sigla* [sɪkla] ‘to sail’, but in Faroese, occlusion only takes place in the case of the velar, that is in *sigla* [sɪkla] ‘to sail’ and *nagli* [nakɿ] ‘nail’. But before /n/ the labial fricative (originally \*[β]) has been vocalized in Faroese, as in (2.20):

- |        |                            |
|--------|----------------------------|
| (2.20) | <i>navn</i> [nau:n] ‘name’ |
|        | <i>javn</i> [jau:n] ‘even’ |

For the most part, the forms in (2.20) can be analysed as having diphthongs, although frequently the [u] may be uttered as a labiodental approximant (Hjalmar P. Petersen p.c.).

The historical cluster /fl/ (\*[βl]) underwent metathesis in Faroese, as shown in (2.21):

- |        |                                    |                                    |                 |
|--------|------------------------------------|------------------------------------|-----------------|
| (2.21) | Faroese                            | Icelandic                          |                 |
|        | <i>talv</i> [t <sup>h</sup> alv]   | <i>tafl</i> [t <sup>h</sup> apɿ]   | ‘chess’         |
|        | <i>talva</i> [t <sup>h</sup> alva] | <i>tafla</i> [t <sup>h</sup> apla] | ‘plaque, table’ |
|        | <i>alv</i> [alv]                   | <i>afl</i> [apɿ]                   | ‘power’         |

There is no stopping of the dental fricative before /l/ in either Icelandic or Faroese. The verb *miðla* ‘to distribute’ has the form [mɪðla] in Icelandic, and [mi:lə] in Faroese with deletion of the medial fricative, and similar conditions are shown in Icelandic *miðlungur* [mɪðlunɣɿ] and Faroese *miðlingur* [mi:lɪŋkʊɹ] ‘average’. Before /n/ the dental fricative remains as such in Icelandic, as in *auðnast* [œɣðnast] ‘to succeed’, but in Faroese, this has become a stop, as in *eydnast* [ɛtnast] ‘to succeed’.

<sup>15</sup> A somewhat special morphophonemic alternation is to be found in words like *veður* [vɛ:ʊʊɹ] ‘weather’ *verðrið* [vɛkɪɹ] ‘the weather’ and *tráður* [trɔʊʊʊɹ] ‘thread’, *træðir* [trakɪɹ]/[trɛ:ɔɹ] ‘threads’. Here the historical *ð* has been deleted in intervocalic position, but before *r* the velar stop has most likely been borrowed from paradigms like *fagur* [fɛ:ʊʊɹ] ‘beautiful’, *fagrar* [fakɪɹ] ‘beautiful-FEM.PL’, where the historical fricative deleted intervocalically was velar, becoming a velar stop before *r*.

<sup>16</sup> These examples represent the most common pronunciation, but according to Petersen (1996: 15), a speaker from *Vágar* (born 1884) has the pronunciation [laɣtʊɹ], for *lagdur* ‘a wisp of wool’ ([laktʊɹ] in the most common variety). This happens, e.g., in the expression *taka úr lagði* ‘to process wool’. According to Petersen, it is possible that the historical fricative has been preserved in this environment, and perhaps in a single family. In fact the pronunciation with fricative + stop is similar to the Icelandic variant pronunciation [lœɣtv] for *lögðu* ‘laid’, which is now extinct, but known in some western and northern areas down to the twentieth century (cf. Árnason 2005a: 381).

2.9 THE *SKERPING* AND HIATUS

Still another source of postvocalic stops in Faroese is the so called *skerpingin* [ʃɛ.ɾpɪ.nʃɪn] ‘the sharpening’ or *Verschärfung*, which takes place in original hiatus forms after high vowels in forms corresponding to OI *eyjar* ‘islands’ and *róa* ‘row’, as shown in (2.22):

(2.22)	OI	MI	MF
	<i>eyjar</i> [øɣjar] ‘islands’	<i>eyjar</i> [eɪjaɾ]	<i>oyggjar</i> [ɔ(i)ʃ̥:aɪ] <sup>17</sup>
	<i>róa</i> [ro.a](?) ‘to row’	<i>róa</i> [rouwa]	<i>rógva</i> [ɹɛk̚ːa]

The gemination is originally a hiatus phenomenon which developed in disyllabic forms like *oyggjar* ‘islands’ and *kúgvín* ‘the cow’, but it has spread analogously to originally monosyllabic forms like *oyggj* ‘island’ and *kúgv* ‘cow’ [k̚ːhɪkv]. This interpretation is both phonetically plausible and also supported by historical evidence. As pointed out some time ago by Matras (1952), this phenomenon is highly reminiscent of the *Verschärfung* which took place in North and East Germanic forms like Goth. *haggwan* ‘to hew’ and *twaddje* ‘two-GEN’ and OI *høggva* ‘to hew’, *tveggja* ‘two-GEN’, cf. OHG *houwan*, MG *hauen* ‘hew’ and OHG *zweio* ‘two-GEN’.

There is general agreement that *skerping* has its origin in geminate glides -jj- and -ww-, which had developed in hiatus. And although *skerping* does not occur in Icelandic, there are signs of a similar tendency. As we shall see in sections 4.2 and 9.5, one possible analysis of MI forms like *eyjar* [eɪjaɾ]/[eɪ:aɾ] ‘islands’ and *róa* [rouwa]/[row:a] ‘to row’ is to see them as consisting of a short vowel followed by a geminate glide /ej.jaɾ/ /row.wa/ (and related to these are forms like *daginn* [taijɪn] ‘the day-ACC’, *logi* [lɔiji] ‘fire’, and others, where an original velar fricative has been palatalized to [j]).

To the extent that the analysis of these forms as having geminate glides is justified, we can see the structure as some sort of starting point for the development of a stop in these surroundings. And the MI forms *eyjar* ‘islands’ and *róa* ‘to row’ can then be taken as supplying the ‘missing link’ in the Faroese development. The Faroese forms *oyggjar* [ɔiʃ̥:aɪ] ‘islands’ and *rógva* [ɹɛk̚ːa] ‘to row’, with short vowels, followed respectively by a palatal and velar stop, are a natural continuation; the final stage of the Faroese *skerping* would be some sort of strengthening of a glide or fricative after a short vowel, as shown in (2.23):

(2.23)	ǃj.j(V)	>	ǃɟ̥:(V)	>	ǃʃ̥:(V)
	ǃw.w(V)	>	ǃg̥ː:(V)	>	ǃk̚ː:(V)

Although monosyllabic forms with *skerping* are common, like *kúgv* [k̚ːhɪkv] ‘cow-NOM.SG’ and *nógv* [nɛkv] ‘enough’, it is clear that the phonological origin of the

<sup>17</sup> This does not happen in place names like *Føroyar*, *Steymoy*, *Sandoy*, and *Suðuroy*. In the case of the name of the northern area or group of islands, two variant pronunciations are found: *Norðoyjar* [no:ɹɔɪjaɾ] or *Norðoyggjar* [no:ɹɔʃ̥(:)aɪ] ‘North Islands’.



change is in hiatus, that is in disyllabic forms. The data presented by Matras (1952) and Petersen (1993) show that the monosyllabic forms with *skerping* are generally younger than the disyllabic forms, and the stops have been generalized into the monosyllabic surroundings from disyllabic forms like *kúgvár* [k<sup>h</sup>ikvaɪ] ‘cow-GEN’ (<\*kuw.war) and *nógvir* [nɛkvɪɪ] ‘enough-PL, many’ (<\*now.wɪr).

MF paradigms like *gjógv* [ʃɛkv] ‘cleft, ravine’—*gjáar* [ʃɔ:aɪ]/[ʃu:wai] ‘id.-GEN’—*gjáir* [ʃɔ:a:jɪɪ]—*gjáum* [ʃɔ:a:vʊn] ‘id.-DAT.PL’ and *krógv* [k<sup>h</sup>ɪɛkv] ‘pub; enclosure for storing peat’—*kráir* [k<sup>h</sup>ɪɔ:a:jɪɪ] ‘id.-PL’—*kráum* [k<sup>h</sup>ɪɔ:aʊʊn] ‘id.-DAT.PL’ show that the *skerping* as a sound change only takes place after high vowels. In these paradigms some case forms (like the nominative) had high /o/ or /ou/ at the time of the strengthening in hiatus, whereas other case forms had low vowels corresponding to historical /a:/. But it is possible to assume that the ‘sharpened’ forms originated in disyllabic forms like definite \*/gjo:in/, corresponding to OI *gjóin* ‘the ravine’ etc. and then the *skerping* consonantism was borrowed into the indefinite nominative forms. In any case, the morphophonemics and history are rather complex, and we shall see in section 12.5 that alternation deriving from the *skerping* is prominent in Modern Faroese morphophonemics.

Uninflected MF forms like *jú* [ju:] ‘yes’ and *nú* [nu:] ‘now’ do not generally have such ‘sharpened’ forms. But interesting light is shed on the original phonetic conditions by expressions like *aamin o jygveittir* ... ‘amen and yes to follow’ (<\*juw.wettir), and *aigj og ikki*, (<\*ai.joicci), corresponding to MF *eiggj og ikki* ‘yes and no, doubtfully’, cited by Matras (1952: 179). Here we have examples showing ‘sharpening’ in hiatus forms in connected speech, although the normal forms *jú* and *ei* do not have stops.

It is thus clear that the ‘sharpening’ as a historical phenomenon originated as a remedial change, to ‘mend’ hiatus. But another development in Faroese, creating new hiatus forms, was the loss of voiced intervocalic fricatives in forms like *maður* [mɛa:ʊʊɪ] ‘man’, *laða* [lɛ:a] ‘to load’ and *laga* [lɛ:a] ‘to make, arrange’. As can be seen, the hiatus is sometimes broken up by a glide, as in *maður*, which has a labial glide before the rounded vowel [ʊ]. In the form *gleði* ‘happiness’, the fricative has also been lost, but a palatal glide has been inserted before a front vowel to break up the hiatus, giving [kle:jɪ]. In some cases there is a sort of competition or division of labour between *skerping* and deletion. Thus the historical labial fricative either took part in the *skerping*, as in Faroese *skúgvur* [skɪkvʊɪ], corresponding to Icelandic *skúfur* ‘tassel’, or was deleted or became a glide as in *máur* [mowʊɪ] or *mávur* [mɔa:ʊʊɪ] ‘seagull’, and *gefa* [ʃɛ:ʊa] ‘to give’.

In Icelandic, intervocalic fricatives have been kept, albeit sometimes in weakened form (or as glides), e.g. in *gefa* [ceɛ:va] ‘to give’, *boða* [poɔ:ða] ‘to announce’ and *saga* [sa:ɣa] ‘story’. But in certain environments velar and labial fricatives (not the dental one) have disappeared in contact with high vowels or diphthongs. Thus, the original fricatives in *mágur* ‘brother in law’ and *mávur* ‘seagull’, still represented in the spelling, have disappeared, giving what may be transcribed as [mauwvɿ] with a bilabial glide bridging the hiatus. But in forms like *mági* ‘brother in law-DAT’, the following /ɪ/ calls for a palatal glide, giving: [mau:jɪ]. It is possible to see this glide as a reflex of a palatalized velar, that is as a result of a development something like

[mɔ:ʏl] (with a pre-quantity shift [ɔ:], spelled *á*) > [mau:ʏl] > [mau:jl]. The labial fricative in *máfur* is retained before /t/, as in *máfi* [mau:vɪ] 'seagull-DAT'. (See section 12.8.)

## 2.10 SYSTEMIC ARRANGEMENTS AND TYPES OF SYLLABLES

In terms of metrical phonology (Hayes 1995) the quantity changes described in section 2.3 involve a typological change from 'moraic trochee' to 'syllabic trochee', which is the 'new order'. This is the basis for the modern phonotactic structure pictured in Chapters 8 to 11 below.

Another typological parameter which can be applied concerns the systemic structure as regards segmental oppositions. The old language had a polysystemic structure as it had two vowel systems, one of long vowels and one of short, and for a time there was even a subsystem of nasalized vowels, although the nasality must have disappeared quite early (in the twelfth century). Ideally the length correlation should have created two isomorphic systems (or a monosystem with a prosodic correlation), where every short vowel had a corresponding long one and vice versa. But it is doubtful whether the correspondence was ever completely isomorphic so that there was no difference in the quality of, for example, a short /a/ and a long /á/.<sup>18</sup>

The diasystemic structure of the Old Icelandic vowel system (and *mutatis mutandis* early Faroese) was further substantiated by different developments in the long and the short system, prior to the quantity shift, so that for a while it is likely that the old long vowels formed a system of tense and diphthongal vowels compared to short and lax ones, and mergers and other developments in the twelfth to fourteenth centuries created gaps in the long/short correspondence. A third 'systemic' dimension for OWN was that unstressed syllables had only three vowel qualities, which on a structuralist interpretation were not uniquely identified with any of the stressed vowels, but constituted a separate domain of structure.

The quantity shift disrupted this structure as we have seen. Not only did it simplify the rhythmic characteristics by eliminating the old light syllables, but it also established a new (in principle isomorphic) relation between syllable structure and vowel length, which in the case of Icelandic (up until the twentieth century) allowed all vowels (diphthongs or monophthongs) to occur either as short or long, according to the length rule (basically long vowels in open syllables and short vowels in closed syllables). In other words the (ideal) outcome of the quantity shift was one system with positional variants: all vowels could occur as short or long. This was then a monosystem with a non-phonemic prosodic correlation.<sup>19</sup>

<sup>18</sup> It is to be noted that short and long vowels, e.g. /a/ and /á/, never rhymed in the older poetry. Although it is possible that this was due to syllabic structure, it might also be taken as a sign that there were noticable differences in vocalic melodies.

<sup>19</sup> But we shall see in section 8.2 that this monosystemicity was again disrupted in twentieth-century Icelandic, and to an even larger extent in Faroese, by the separate developments in the long and the short subsystems.

Another sign of monosystemicity in early Modern Icelandic (however not Faroese) is that the status of the originally unstressed syllables has changed relative to stressed syllables. In classical Old Icelandic, non-initial unstressed syllables in simplex words could only have one of the three lax or short vowels /i/, /u/, or /a/. In the modern language, there is no such restriction, and there is no systemic difference between stressed and unstressed syllables. Modern Icelandic forms like *gúrú* [ku:ru] ‘guru’, *partí* [parti] ‘party’, *gabbro* [kaprou] ‘gabbro’ show that tense vowels and diphthongs can now occur in non-initial syllables. This is also shown by borrowed names like *Nikulás* [ni:k(y)laus] ‘Nicholas’ and *Davíð* [ta:viθ] ‘David’. This is different from Faroese. As we shall see below (section 5.5), there is massive neutralization in the quality of the unstressed syllables of MF, showing that there is a systematic difference between full and reduced or restricted syllables. Thus borrowed names like *Niklas* [ni:klas] ‘Nicholas’, *Dávur* [tɔɑ:vʊɪ] ‘David’ have vowel qualities in the unstressed syllables which are typical of the weak syllables as described in section 5.5. This is one of the fundamental differences between the modern Icelandic and Faroese systems.

As regards the stressed (or full) syllables, the ‘new order’ in Faroese is the same as in Icelandic when it comes to basic syllabic structure. There is a Faroese ‘length rule’ accounting for the distribution of long and short vowels, and there is only one type of quantity, all full syllables being ‘heavy’ as a consequence of stress (stress-to-weight). A classification of the stress matrices in Faroese as consonantal (VC) or vocalic (V:) is also possible. The most important difference between the languages lies in the fact that restricted syllables are still found in Faroese, but not in Icelandic.

However, as we shall see more clearly in Chapters 4, 5, and 8, both Icelandic and Faroese have, after the quantity shift, been subjected to changes which have disrupted the isomorphic correlation, aimed at by the quantity shift, between corresponding long and short vowels in the stressed systems, and thus a diasystemic structure is being reinstated. On the one hand, old short diphthongs have become monophthongs and, on the other, the long variants of the old short vowels have tended to develop diphthongal variants. Here the development of Faroese has gone further, so that, for example, it must be assumed that the short vowel [ɔ] in *bátsmaður* ‘boatman’, corresponding to the ‘long’ [ɔɑ] in *bátur* ‘boat’, both historically derived from /á/, are simply two different vowels. There is, in other words, no way of accounting for the distribution of long and short vowels with a correlation which maps these vowels to one and the same underlying vowel.

Although Icelandic is less developed in this direction, the postlexical phonology (as defined below), both has diphthongal long vowels and tends to monophthongize short diphthongs. And furthermore, innovations like the merger of long (and not short) high-mid and low-mid vowels, in the so-called *flámæli* (see section 8.1), go in the same direction.

## THEORETICAL PRELIMINARIES TO THE SYNCHRONIC ANALYSIS

The purpose of the synchronic account of Modern Icelandic and Faroese that follows is primarily a descriptive one, but the various theoretical implications of the facts observed will be considered and in many cases the data will shed light on issues which seem interesting from a general theoretical point of view. In this chapter we will discuss some questions of general interest in phonological theory which are raised by the data and lay out some of the premises that form the basis of further discussion.

The most immediate problem in the presentation is the issue of the choice of alphabets for phonological representations, phonetic and phonological. As regards linear representation I shall, apart from standard orthographic forms, be using two types of familiar transcription—one that we may refer to as phonemic (corresponding to input in OT), presented within slashes, and the other phonetic, presented within square brackets.<sup>1</sup> As regards subsegmental and suprasegmental constituent structure, familiar tree representations will be used, and for phonological primes or features below the segment, use will be made of the element notation applied in work within the framework of Government Phonology (see, e.g., Harris and Lindsey 1995; Harris 1996).

Among the specific theoretical problems we shall be looking at in some detail in this chapter and later on in Chapters 9 and 10 is the relation between length and quantity at the level of individual segments or larger units. Another question, which is raised by the rich array of diphthongs in MI and MF, is when melodic movement (vocalic or consonantal) from one point to another in the linguistic chain should be seen as due to ‘moving segments’ or proper diphthongs, that is segments with different melodies at the beginning and at the end, or whether they should be seen as sequences of segments. A further fundamental question which we will consider at the outset is the relation between the lexical representation (input structure in OT terms) and postlexical (output) representation.

### 3.1 PHONOLOGICAL LEVELS OF REPRESENTATION

Concerning the relation between (morphophonemic) input and (phonetic) output, it will be assumed that there are (at least) two distinct levels of phonological structure

<sup>1</sup> As a rule, individual words will be transcribed phonetically in their citation forms, as uttered in isolation. This means that the forms will, as utterances, have an accent in the place of the word stress and lengthening of the stressed syllables (cf. section 10.1.3), and normally the final devoicing described in sections 12.2 and 14.5.2 will be represented in the transcription.

that have to be taken into consideration. On the one hand there is what we will call the lexical level, using the slash transcription, and on the other hand we have the postlexical level represented in linear transcription within square brackets. The lexical level defines the units and constraints of the phonological structure of lexical forms, morphemes, or words as part of the lexicon (or ‘vocabulary’, McCarthy 2002: 70), which form the input to the postlexical constraint system. The conceptual frame corresponds in some respects at least to that of ‘Stratal OT’ (Kiparsky 2008: 13; for earlier work in the tradition of Lexical Phonology, see e.g. Kiparsky 1985; Booij 1996.)

The lexical level corresponds in some respects to the phonological input level or the Base in non-stratal Optimality Theory (OT), only the crucial assumption made here (contrary to some OT-postulates, e.g. Prince and Smolensky 1993; Kager 1999; McCarthy 2002: 69 ff.) is that certain generalizations about structure are only valid for lexical items. There is an ongoing debate among phonological theorists, which will not be settled here, regarding the possibility that all phonological generalizations can (in the words of McCarthy 2002: 69): ‘be derived from markedness/faithfulness interaction, which controls the faithful and unfaithful mappings that preserve or merge the potential contrasts present in the rich base’. In other words, assuming some sort of special, language-specific phonological restrictions on inputs or the vocabulary of individual languages is unnecessary. It will be assumed here that on the contrary we need a special phonemic (morphophonemic or word phonotactic) level, where the units appropriate for the slash notation are defined, and that the ‘burden of proof’ lies with those who want to get rid of the level of word phonology and morphophonemics.

To take an example from Icelandic, the morphologically simple verb *ansa* ‘to answer’ has the lexical representation /ansa/, a sequence of four (tokens of) Icelandic phonemes, which can have varying postlexical realizations, the following among them: [(ʔ)ansa], [(ʔ)aʒsa], or [(ʔ)ã:sa]. The different realizations of the lexical form are conditioned by processes or constraints, such as the deletion or weakening of the nasal before a voiceless fricative and the insertion of a glottal stop in a lexically onsetless form, which may be variously prominent in utterances, depending on factors such as stress or clarity in utterance style. For a derivational compound like *lánsamur* ‘lucky’, consisting of the nominal stem *lán* ‘luck’ followed by the suffix *-samur* ‘some’, the lexical form is /launsamʏr/, but it may have variant output forms like [ˈlau:n.samʏr] [ˈlaunsa.mʏr], [ˈlauʒsa.mʏr] and [ˈlau̯:sa.mʏr], depending on postlexical conditions or style, including the realization of stress.

The alphabet used for the lexical representation corresponds to the phonemic units or underlying segments of the language in the traditional sense (including some diphthongs). These phonemic units can distinguish meaning and morphosyntactic properties by defining the phonological shape of morphological forms by concatenation, but they may also be used to express meaning differences by substitution, as in ablaut or umlaut morphology (cf. Chapter 12). An important characteristic of the lexical component of the phonology, as conceived here, is that it is **structure preserving** (in the sense of Kiparsky 1985), which means that for each language

(or language state) only symbols from the same (language-specific and finite) alphabet must be used for all representations at this level. Therefore postlexical, 'subphonemic' units (or allophones) may not be used for morphophonemic purposes. Thus ablaut and umlaut paradigms such as Icelandic *lít* 'look-PRES' /lit/—*leit* 'look-PAST' /leit/, and *barn* 'child' /patn/—*börn* 'children' /pœtn/ and the consonantal relations in *saga* 'story-NOM' /saɣa/—*sagna* 'story-GEN' /sakna/ described in Chapter 12 may involve the substitution of one (or more) phonemic unit(s) for another (or others). But there is no change in the type of structure, that is, units from the same alphabet are used in the representation of the singular /batn/ and the plural /bœðn/ and the Nominative Singular /saɣa/ and Genitive Plural /sakna/. By the same token a subphonemic nasalized vowel which may occur in variant pronunciation [ã:sa] beside [ansa] of forms like MI *ansa* 'to answer' may not be used in this way for morphophonemic purposes. The apparent minimal distinction between [ã:sa] and [a:sa], corresponding to *asa* 'haste-OBLIQUE', is not 'promoted' to phonemic status due to the fact that the more clearly pronounced variant [ansa] can also be used for *ansa* 'to answer' in contrast to [a:sa] *asa* 'haste-OBL'.<sup>2</sup>

The phonemic units, as the primitive units of lexical phonotactics, participate in a hierarchy of syllabification and foot structure to the extent that this is determined in the lexicon; also among phonotactic arrangements there are principles governing possible consonant sequences and the distribution of long and short vowels according to the so-called length rule (see section 10.2). For Modern Icelandic the phonotactic constraints which are relevant on this level determine the function of morphophonemic alternations based on phenomena like preaspiration, occlusion before /n/ and /l/, and some others (see the discussion in Chapter 12).

The postlexical phonology is the more clearly phonological (or phonetic) level of structure. This is the level which determines the actual pronunciation of forms. Several facts about phonology belong on this latter level, including such things as phrase level stress relations and intonation and some rhythmically determined processes responsible for variation in pronunciation. On the postlexical level, phonological well-formedness is thus defined, among other things, according to intonational principles that have an influence on duration, timing, and rhythm. Additionally, a number of sandhi principles and postlexical effects, such as final devoicing (in Icelandic and less markedly in Faroese), truncation (in Faroese), and general 'slurring' are active and can be the source of a great deal of variation in the actual pronunciation of utterances (see Árnason 1980 and Chapter 14 below for an enumeration of such phenomena in Icelandic and Faroese). This level is, in other words, not structure preserving (in the above mentioned sense), and some phonological forms are permitted that are not relevant to morphophonemics.

<sup>2</sup> This set of oppositions is invariably the result of sound change. According to Kiparsky (2008: 188) 'In the Stratal OT framework... sound change corresponds to the promotion of markedness constraints to undominated status in the postlexical phonology (with the innovative constraint ranking then spreading to the word phonology, or even to the stem phonology).'

We have seen that in at least some interpretations of OT, making a distinction between lexical and postlexical phonological relations and alphabets is not an option; the Base is assumed to be ‘rich’, which means that no restriction is applied to the form of potential inputs in phonological mapping. Thus, according to McCarthy (2002: 70), ‘[e]xcept for accidental gaps, the observed inventory of a language should exactly match the output of EVAL for that language’s constraint hierarchy.’ We will, obviously, not subscribe to this interpretation, since we assume that the lexical representation needs a separate alphabet of representation, which defines the lexical level.<sup>3</sup>

One of the main arguments for the ‘Richness of the Base’ (ROTB) or monostratal character of phonological structure is the so-called ‘Duplication Problem’. This is that, in traditional Generative analyses, phonological rules often ‘duplicate in their dynamic mappings the restrictions that are imposed statically by lexical redundancy rules’ (McCarthy 2002: 71). But we may ask how serious this duplication problem is, and if it is a problem whether it is indeed solved by ROTB.

In level ordered phonology there is obviously a difference in the abstractness of the two phonological levels as separate components of structure in that the lexical structure can only be realized with the postlexical, phonetic level as a medium. Taking the representation of length and syllabification as an example, syllable structure in the form of boundaries and rhythmic characteristics can only be ‘observed’ directly in the output, in utterances (of single words or phrases). The obvious question is whether there is a need for some constituent structure in terms of syllables, onsets, or rhymes on the lexical level. Here the burden of proof would certainly seem to lie with those wanting to assume some sort of abstract syllabification, but it is possible that things to do with phonotactics indeed call for the assumption of such structure. The important thing is that the mapping between the lexical representation and the output is unambiguous, so that we can recognize the observable consequences of assuming this or that abstract representation.

Although it will be argued below (Chapter 10) that in order to analyse the rhythmic character of Icelandic and Faroese, there is really no need to ‘measure’ length (e.g. in terms of the number of moras) on the lexical level, we have to say something about the rhythmic characteristics of input segments or constituents. What we need is a means of indicating how and where accents are realized, for example by distinguishing between units which behave differently in the phonetic output with regard to tonal contours and durational relations as determined by the postlexical and intonational demands (or constraints). Representing the prosodic characteristics of the input structure is not the same as representing the actual duration of individual segments or syllables, since this is conditioned by other factors beside lexical arrangements (such as rhythm, rate of speech, and the strength and type of the accent).

<sup>3</sup> This way of thinking has things in common with the current model of Stratal OT (cf. Bermúdez-Otero 2006; Kiparsky 2008). Kiparsky (2008: 12) formulates a type of constraint which he labels *NONNEUTRALIZATION*: ‘An output must not have a more faithful input correspondent’. The effect is that if there is an input correspondent which can be faithfully mapped onto an output, mapping a less faithful correspondent to the output is not allowed. This seems to require that all inputs are not equal, i.e. that some input distinctions can be marked as ‘preservable’.

So, the input ‘length’ of a vowel (characterizing the way it participates in the prosodic organization) is not the same thing as its output ‘length’ or duration.

To the extent that length or duration is represented both in input forms (from the ‘vocabulary’ of the language, cf. McCarthy 2002: 70) and output forms (belonging to the ‘inventory’, i.e. ‘the set of permissible outputs’, *ibid.*), we have a genuine ‘duplication problem’, since the same thing has to be said twice. But the question is whether this is such a bad thing, and in fact it is not clear that this problem is solved by assuming ROTB. If we say that a form like Icelandic *fara* /fa.ra/ ‘to go’, with an open first syllable and a long (or rather non-short, cf. Chapter 10) vowel, can be realized differently in different outputs, for example according to the character of the post-lexical accentuation, this would mean that there are different outputs, depending for example on the amount of stress, as shown in (3.1):

- (3.1) a. *Hann er að FARA* [hanəra<sup>h</sup>fa:ra]  
           He is to go-INF  
           ‘He’s leaving’  
       b. *Hvort ertu að fara eða KOMA* [kvɔrtərtəfa:ðak<sup>h</sup>ɔ:ma]  
           Whether are you to go-INF or to come-INF  
           ‘Are you going or coming’  
       c. *Hann er að fara í BAÐ* [hanərafəri<sup>h</sup>pa:θ]  
           He is to go-INF in bath  
           ‘He’s going to take a bath’

We have three output forms: in (3.1a) we have [fa:ra] with a strong accent and quite a long vowel; in (3.1b) we have [fa:ra] with a weaker accent and not quite so long a vowel, but still lengthened due to the prenuclear accent, and in (3.1c) we have [fəri] with a weak or reduced vowel. These are among the possible realizations or outputs for the verbal form /fara/. A strict application of the ROTB principle would seem to call for the listing of all of these and an endless number of others as possible inputs. There should in principle be as many length distinctions in the input as there are conceivable distinctions in outputs (e.g. dependent on the possibilities in the ranking of constraints as determined by intonational conditions). But this would seem to be multiplying entities beyond reason.

### 3.2 ALPHABETS FOR PHONOLOGICAL REPRESENTATION

The distinction between the two phonological levels, which are here assumed to be relevant, opens up the question of when a linguistic property observable in an expression or output should be seen as traceable to some lexical distinction **or** to circumstances in the postlexical phonology. One aspect of this problem is the old question of when allophones are elevated to phoneme status (cf. Fn. 3, p. 38). From the paradigmatic point of view (that of opposition), the question is when phonological properties become distinctive, and from the syntagmatic side (that of segmentation)



the question is when a part of the signal (say, a stop preceded or followed by aspiration) is to be seen as one unit or segment with some contour in its melody or as a concatenation of units. And this is basically the question of which alphabets should be used in each case in phonological representations.

We will have plenty of chances to comment on such problems in the text to follow, but in the next sections we will look at some rather general questions regarding the analysis of diphthongs. We have already seen that these are prolific in the two languages at hand, and their analysis raises questions of general interest. When does a vowel become what might be called a 'true diphthong' instead of being an 'unsteady' but basically monophthongal vowel? And similarly we will consider when a phenomenon like Icelandic (but perhaps not Faroese) preaspiration becomes a 'full fledged segment', as it has been termed (Hansson 2003: 50, 64).

### 3.2.1 *Segments and distinctions*

In spite of theoretical trends such as those of Autosegmental Phonology and Government Phonology toward decomposing phonological segments or 'phonemes' into autosegments that may 'float' around on separate tiers of phonological representation, the concept of segment, ultimately based on the invention of phonemically based alphabetic writing, still seems to be central to most modern phonological thinking. The traditional idea of the phoneme has sometimes been downplayed, but it seems that the segment, as represented in transcription with the help of Latinized symbols (e.g. the IPA alphabet), crops up in most analyses of phonological structure (as a bundle of features or elements). In terms of Autosegmental Phonology, the phonemic or segmental inventory of a language is the set of root nodes assumed in each case. And this also goes for representations in inputs and outputs in OT tableaux, where we have expressions corresponding to *segments* or *sounds*, often within slashes in the input and square brackets in the output.

According to our understanding, the principle of structure preservation laid out in the previous section establishes that, on the lexical level, only phonemic units, a set defined for the level of the word structure of a language like Icelandic, are used in representations of morphemes and morphophonemic relations. In other words, one of the crucial characteristics of the lexical level of phonology is the definition of a language specific set of symbols (obviously not universal, but perhaps a subset of a universal inventory) or an alphabet, out of which the systematic phonemic representations are formed. Thus for each of our two languages a set of phonemes (vowels and consonants) will be defined in order to represent the phonological shape of words and morphemes. These include, particularly in the case of Faroese, a rather rich set of diphthongs.

The phonemic units conceived in this way are distinctive in that they mark the phonological differences between different expressions. 'Output oriented' theories, which assume parallel processing and richness of the base, assign, as we have seen, little or no significance to such lexical representations as a relevant stratum in the phonology. But it seems that even output oriented frameworks need some means of

representing, or rather identifying, the contrast between different forms like *man* [ma:n] ‘young lady’ with a long vowel followed by a single (or onset) consonant and *mann* [man:] ‘man’ with a short vowel followed by a long consonant or geminate. In terms of Optimality Theory, we have to identify the feature or characteristic to which faithfulness is demanded in the Input–Output mapping, or in the terms of Flemming (2001: 34–6), the phonological characteristic which is defined as crucial for the ‘contrasts’ involved (in this case vowel length, consonant length or syllabic structure). Which parts of the representation are neutralized and which parts are essential for the contrast and may only be neutralized at the cost of merger in the output?

### 3.2.2 *Phonological primes*

In the analysis of subsegmental structure we will make use of privative features or melodic elements of the type used in Dependency Phonology (cf. Harris 1994; Harris and Lindsey 1995; Cyran 2003; Durand 2003, 2005; Carr et al. 2005; Gussmann 2007). In this framework the basic units are elements or colours, such as **A**, **I**, and **U**, which are meant to be universal primitives for the analysis of phonological systems. The essentials of the elements have been defined in the following manner—originally by Harris and Lindsey (1995) and Harris (1996), cf. also Harris (1994); here presented partly after Cyran (2003: 17):

- (3.2) • **A**: ‘Mass’, corresponding acoustically to a central energy mass and a convergence of  $F_1$  and  $F_2$ ; in articulation a maximal expansion of the oral tube and a maximal constriction of the pharyngeal tube;
- **I**: ‘Dip’, corresponding to diffuse spectral composition, i.e. low  $F_1$ , and convergence of  $F_2$  and  $F_3$ ; in articulation a maximal constriction of the oral tube and maximal expansion of the pharyngeal tube;
- **U**: ‘Rump’, corresponding to flatness or a low spectral peak and convergence of  $F_1$  and  $F_2$ ; articulatorily a ‘trade-off’ between expansion of the oral and pharyngeal tubes may be acquired by rounding.

The elements listed above, most obviously associated with vowels, may also be used to represent resonance properties of consonants, produced in places of articulation like labial, dental, or velar. To account for consonantal properties associated with the manner of articulation, such as stopness or frication, the following elements have been defined (see Harris 1996: 314; Cyran 2003: 17):

- (3.3) • **?**: ‘Edge’, acoustically corresponding to an abrupt and sustained drop in overall amplitude but in articulation to an occlusion in the oral cavity;
- **h**: ‘Noise’, acoustically corresponding to aperiodic energy in articulation associated with a narrow stricture producing turbulent airflow.

In addition to these elements, the **H**-element, associated with tenseness of the vocal chords, and **L**, associated with laxness of the vocal chords, may be used to account for voicing and aspiration in plosives, as described by Cyran (2003: 17):

- (3.4) • **H**: ‘High tone’, raised pitch on vowels; VOT lag (aspiration) in obstruents, corresponding to stiff vocal chords;  
 • **L**: ‘Low tone’, lowered pitch on vowels; VOT lead (full voicing) in obstruents corresponding to slack vocal chords.

In addition to this the N-element has been applied in the analysis of nasals. This is described in the following manner by Cyran (2003: 17):

- (3.5) • **N**: ‘Nasal’; low frequency of first resonance, corresponding to lowered velum; airflow through the nasal passage.

The element notation is particularly well suited to the synchronic and diachronic description of diphthongs, both vocalic and consonantal, and the development and synchronic structure of Icelandic and Faroese provide good opportunities to test these tools. It seems that the notation is helpful in clarifying some of the general issues relevant for the synchronic analysis.

But in spite of this usefulness, there seems to be a lack of clarity and perhaps some unsettled fundamental issues in the theory, for example regarding the exact number and character of the elements. There is an apparent and not always overtly discussed inconsistency in the literature in the number of elements assumed. Harris and Lindsey (1995: 59–62) assume a fourth element for vowels, the neutral element @, whereas other scholars (such as Cyran 2003 and Gussmann 2007) do not seem to make use of this element in their analyses. For Harris and Lindsey the neutral element corresponds to the resonance pattern of the neutral configuration of the vocal tract, a sort of ‘blank canvas’. It is ‘omnipresent in segmental expressions but fails to manifest itself whenever it is overridden by other element(s) that may be present’ (Harris and Lindsey 1995: 61). This characteristic makes its presence in individual representations redundant, so that the expressions {I, @} and {I} represent the same thing. The only place where the neutral element has any effect is when it is the head of an expression, representing laxness or [-ATR], and then the representation {I, @} means the same as {I, \_}, that is a ‘headless’ expression with I as an operator (see section 3.4 below).<sup>4</sup>

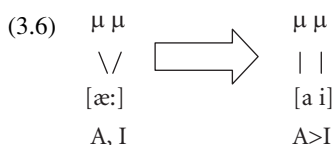
An important characteristic of the element theory, emphasized by Harris and Lindsey (1995: 36) and Harris (1996: *passim*), is that representations using this alphabet are ‘redundancy free and fully interpretable’, that is they are phonetically interpretable at all levels of representation. Referring back to the discussion in section 3.2.1 on the relation between the lexical and postlexical representation, this means that even though phonological properties of phonemes are abstract, they are still

<sup>4</sup> It is not always easy to look in the literature for a precise definition of the elements or their provenance. Thus the description of the N-element used here is taken from the account given by Cyran (2003: 17), who cites Harris (1996: 314) as a primary source. But there is no definition of the N element in the latter reference, only of the resonance elements and the edge and noise elements. In spite of this lack of clarity, the notation will be used in this book, if only for typographic convenience. For readers who are used to the distinctive feature notation of Chomsky and Halle (1968) it should be easy to translate the representations given here into that type of notation. Thus, e.g., the resonance features correspond to the familiar ones referring to places of articulation in vowels and consonants, and H corresponds to [spread glottis], and ? to [constricted glottis], etc.

defined in terms of their ‘stand-alone characteristics’, which means that the phonological representation of /fara/ is always interpretable, given the defined output conditions, either when pronounced in isolation in a listing style or in some contexts of the type exemplified in (3.1).

### 3.2.3 Analysing diphthongization

There is a well known connection between length and diphthongization, as shown by the fact that longer vowels show a much greater tendency to diphthongize than shorter ones, and this is true of both Icelandic and Faroese as we have seen. A common way of interpreting the length-diphthong relation is to say that in diphthongization, a bimoraic vowel, which has a complex or mixed melody, undergoes fission so that the two morae develop different qualities, as shown in (3.6):



Here, the long [æ:] as a mixture of A and I becomes a sequence of the two relatively clean colours.

But there are some details in our data which create problems for orthodox Auto-segmental Phonology as it interprets the relation between timing and melodic structure. Thus the short diphthongs in Modern Icelandic forms like *austur* [øystʏr] ‘east’ and Modern Faroese forms like *Ísland* [ʊistlant] ‘Iceland’ show that length is not a necessary condition for diphthongal structure in individual cases, and obviously length can exist without diphthongs, showing that bimoraicness is not a sufficient condition for diphthongization.<sup>5</sup>

In a series of articles, Schane (1984, 1987, 1989, 1995) studies diphthongization in Spanish. In his analysis of vocalic melodies Schane uses ‘particles’, called **i**, **a**, **u** (which have an obvious relation to our I, A, and U), and a diphthongization like that of [æ] to [ai] is taken as a change from a complex vowel colour in one root node (co-catenation, cf. section 3.3 below) to a sequence of simpler segments (con-catenation), where **a** precedes **i**, as shown in (3.7) (‘,’ denotes co-catenation, and ‘>’ denotes concatenation and precedence):

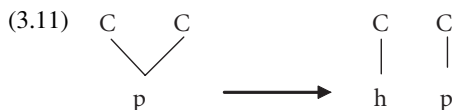
(3.7) /æ/ (**i**, **a**) → /ai/ (**a**>**i**)

<sup>5</sup> No attempt is made here to look for more cases in other languages where diphthongs exist without length as a condition, but it is likely that such cases can be found. As shown by Schane (1987, 1989; see also section 3.2.1 below), Spanish has diphthongs without phonemic length and there seems to be alternation between long and short diphthongs in open and closed syllables, as in *puerta* [puer.ta] ‘door’, *bueno* [bue.no] ‘good’. (Thanks to Viola Miglio for these examples.)



The illustration in (3.10) shows clearly that the **crucial stage in diphthongization is the creation of the new branch by opening on the melodic tier**.<sup>6</sup> And it is important to note that lengthening or opening on the timing tier is not the same thing as fission or an opening on melodic tier.

In fact, as pointed out by Hayes (1990), there are some paradoxes which make it impossible to describe diphthongization as a process, synchronic or diachronic, using the tools of ‘classical’ or orthodox Autosegmental theory. Using Icelandic preaspiration as an example, Hayes shows that generating aspiration from /pp/ to [hp] as in (3.10) is not a simple matter:

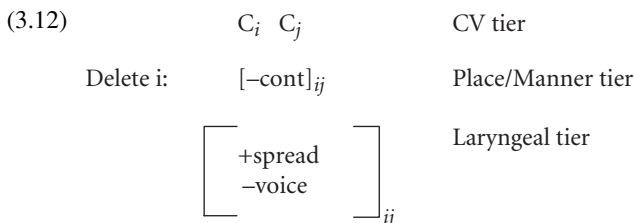


One of the foundations of Autosegmental Phonology is the Obligatory Contour Principle (OCP), which states that long segments are to be analysed as doubly linked *single* melodic units or *root nodes* (italics mine). Accordingly the long /p/ in (3.11) is just one melody which is associated with two positions on the VC tier, and the change illustrated by the arrow describes the development of preaspiration as a deletion of the supralaryngeal characteristic of the first part of this /p/. But the problem is, in Hayes's words (1990: 35), that '[t]he representation provides no way to delink supralaryngeal specifications of /pp/ only from the first half of the geminate'. This is what he calls the 'diphthongization paradox'.

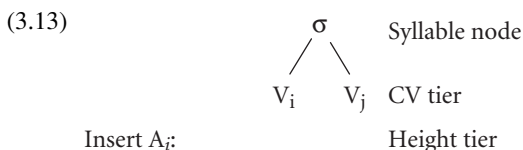
The reason for this paradox is, according to Hayes, a fundamental ambiguity in the use of association lines in Autosegmental Phonology. Lines are used to denote both temporal relationships and category membership, but these are obviously two different things (cf. Hayes 1990: 39–40). Relations like 'belongs to syllable', 'belongs to segment/root node' indicate category membership. The same goes for lines in a 'feature tree'; classificatory features such as laryngeal or supralaryngeal indicate category membership, and they are not association lines representing timing relations and order (temporal precedence). This is, however, the character of the 'actual' association lines linking the root nodes to the timing tier.

Hayes's solution to the diphthongization paradox is to separate out the functions of feature grouping or category membership and temporal association. This is done by brute force, so to speak, replacing the association lines (temporal linkages) with coindexation. Thus Icelandic preaspiration, which is assumed (in fact on doubtful grounds, see Chapter 11 below) to derive from underlying geminates, is seen as a deletion of the feature [–cont] from the first position in the underlying representation, as illustrated in (3.12) (copied from Hayes 1990: 48):

<sup>6</sup> This corresponds to what Andersen (1972:18) calls 'PHONEMIC DIPHTHONGIZATION... the re-interpretation of a single segment as a sequence of segments (whether tautosyllabic or heterosyllabic)'. This is an 'abductive' change (in Andersen's 1973 sense) which creates a 'sequential diphthong' being 'a sequence of segments, usually forming part of the same syllable'. A 'segmental diphthong', on the other hand, is 'a single segment whose central phase is acoustically heterogeneous in its temporal development'.

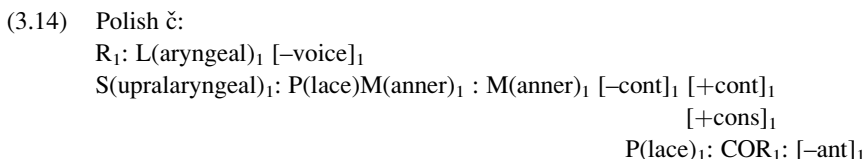


This gives a sequence of positions ( $i, j$ ) sharing the features [+spread, -voice], but the association of [-cont] is deleted from the position  $i$ . For the diphthongization of /e:/ to [æ] in Scanic (Lund) Swedish *leda* ‘to lead’ and of /ɛ:/ to [æ] in *mäta* ‘to measure’, Hayes proposes an insertion of the element (particle) A in the first position of a long vowel:



Thus, like Schane, Hayes separates between the timing part (on the CV tier) and the melodic part of diphthongization. Thus the indices  $i$  and  $j$  correspond to the branches that are crucial in Schane’s model of diphthongization, in other words the difference between a diphthong and a monophthong is whether such different indices/branches are present or not. Once a new root node (or index) is established, diphthongization can take place, and the relation to timing is thus only indirect.

The relation between diphthongization and timing becomes even more indirect when we look at short diphthongs and affricates, which are commonly analysed as contour segments. Thus Hayes (1990: 60) represents the Polish affricate /č/ ([tʃ]) by different values for the feature [cont] within the same ‘position’, as in (3.14):<sup>7</sup>



Here the Manner node, which has just one index or time slot, starts out as [-cont] and ends up as [+cont]. This means that besides ‘bisegmental’ diphthongs and affricates, there are ‘monosegmental’ ones or contour segments. Hayes raises the question of what justifies this dichotomy: shouldn’t vocalic diphthongs be analysed as contour vowels? The answer is, according to Hayes that ‘[t]he problem with this counterproposal is

<sup>7</sup> ‘[S]ince it bears only one index, an affricate is the immediate temporal successor of the segment on its left, and predecessor of the segment on its right.’ (Hayes 1990: 60). This seems to be equivalent to saying that we are dealing with one segment in some sense.

that it fails to account for the observation . . . [that] rules of diphthongization apply only to long vowels; more generally diphthongs virtually always occupy two prosodic positions' (1990: 61). But we shall see that there are important exceptions from this and the alleged relation diphthongization and bimoraicness is by no means direct.

### 3.3 THE REPRESENTATION OF TIME AND PRECEDENCE

The important lesson to be learned from the discussion above is that melodic fission is an independent phenomenon from 'skeletal fission' or lengthening, expressed in terms of timing units on the CV tier. Another fact which is worth keeping in mind is that, as such, time in phonology is a more complex phenomenon than is often implied, in particular by Autosegmental representations in terms of CV skeleta, x-slots, or morae. Coleman (1998: 33ff) has a useful discussion of this problem. He points out that a string of segments in a (phonetic or phonological) transcription can either be interpreted as denoting *intervals of time* or *moments in time*, or simply the relation of *precedence* (*a* precedes *b*). Apart from the confusion noted by Hayes concerning category membership vs timing, Autosegmental theory is none too clear about whether x-slots or morae represent time (intervals or moments) or just precedence. The suggestion made here is that time should not be directly measured or represented in lexical phonological representations of segments in the phonological alphabet as defined in section 3.1, although the relation of precedence obviously must appear in some way, whether direct or indirect, for example to make a distinction between English *lost* and *lots*.

In the light of the arguments presented above, pointing out the indirect relation between length and diphthongization, we note that there is a general way of looking at diphthongization which seems quite natural and independent of length and moraic structure. It is possible to see spontaneous diphthongization as driven by a sort of universal tendency for melodically complicated segments to decompose or split by fission and create sequences of simpler segments with fewer elements. Elements want to 'flourish' and be seen, and melodically simple segments are in some respects better and more natural than melodically complex ones. (In optimality terms, this can be seen as a part of the general constraint \*COMPLEX SEGMENT, which states that mixed segments are worse than pure segments.) Thus the elements [A] and [I], which combine to form a mixed vowel colour like /æ/, each want to flourish in their own right as /ai/, rather than as a mixed unit. Or there might be some acoustic or cognitive law that makes it (in some respects, but not others) more natural to have two clear colours than to have one mixed one, making a sequence like [ai] in one respect more natural than a mixed segment like [æ].

The statistical or historical correlation between length and diphthongization, which is of course well attested, is just that, and it can be seen as due to the fact that shortness of segments checks fission, instead of length inducing it. Length in the output scansion



simply makes diphthongization easier, since obviously there is more room for contours in longer units than in shorter ones.<sup>8</sup>

### 3.4 SATURATION AND FISSION IN WEST NORDIC DIPHTHONGS

Turning back to the history of Icelandic and Faroese we can now account for the diphthongal developments described in sections 2.4–5 with the help of the element notation and insights from Schane's model.

It is assumed that phonological elements can have varying prominence within segments. Thus it is possible to distinguish between vowels like high mid /e/ and low mid /æ/ as mixtures of I and A in different proportions, I being the more prominent in /e/, and A more prominent in /æ/. The different strength of the elements is accounted for by assuming asymmetric relations, so that one of the elements may dominate the other as **head**, making the weaker one what is called **operator**; thus in /e/, represented as {I, A}, the I-element is the head, and the A-element the operator, and in /æ/ it is the other way around: {A, I}. We note in particular that changes in vowel colours can be seen as changes in the relative strength of the elements. Thus the raising of a low front vowel like /ɛ/ to /e/ can be connected with the enhancement of the I-element and a corresponding demotion of the A-element, and rounding can be seen as an enhancement of the U-element, and so on.

Extending the use of the head/operator relation, it has been proposed (Cyran 2003: 20) that phonological constructs can be 'unheaded', which means that elements can be present solely as operators. It has thus been suggested that a useful way of representing 'lax' high vowels like [ɪ] or [i] might be to see them as pure, that is consisting of one colour, but that this one colour is not a head; this colour is then less prominent in a lax [ɪ] vowel, represented as {\_, I} than in a normal or 'tense' [i], represented as {I}.<sup>9</sup>

The tendency for diphthongization can in general be seen as due to the influence of some sort of principle or markedness constraint (\*COMPLEXV), stating that 'pure' vowels are better than mixed ones, and this can then call for fission of colours in

<sup>8</sup> Compensatory lengthening is sometimes taken to supply arguments for a separate timing tier. Thus Bickmore (1995) argues that only the deletion of moraic segments (i.e. not all segments on a skeletal tier) causes compensatory lengthening, which might seem to justify moraic structure. But in the case of Icelandic at least, it is not necessary to assume mora counting in compensatory lengthening. Thus in cases like *ansa* 'to answer' which becomes [ã:sa] with a long nasalized vowel compensating for the loss of the nasal as a segment, it is enough to assume simply a loss of coda consonant, leaving the vowel as a sole carrier of length in an open syllable. Thus it is the openness of the syllable which calls for the lengthening.

<sup>9</sup> We will not concern ourselves here with theoretical questions regarding the legitimacy of assuming empty-headedness as a separate value, and another way, without making use of this mechanism, would be to take /ɪ/ to be a combination of I and A with I as head: {I, A}, and then /e/ should be characterized as {A, I}. There seems to be no need to assume the velar or centralizing element @ to be active in the MI system, although it may have played a role in the centralization and later fronting which took place in the old back /u/ and /o/, corresponding to MI /y/ and /æ/, cf. section 2.4.)

complex vowels. This is simple to express in the case of the Icelandic diphthongization, as shown in (3.15):

(3.15) æ: > ai; ɔ: > au; o: > ou; e: > ie

The development in Faroese is slightly more complicated than that in Icelandic and poses, as we saw in Chapter 2.5, some challenges to the hypothesis that diphthongization is universally brought about by fission of colours in complex or impure segments. True, the development of the [ɔu] diphthong from the mid high back /o:/ in *stórir* ‘big’ and the [ɔʊ] from the low back rounded /ɔ:/ in *bátur* ‘boat’, are natural enough. But as noted in section 2.5, the seemingly ‘pure’ vowels /i:/ and /u:/ have undergone diphthongization and developed into [ui] and [ɯu] respectively (*síla* ‘to sieve’, MF [sɔi:la] and *súla* ‘pillar, pole’ [sɯu:la]), and furthermore old short /a/, a seemingly pure vowel, has given MF [ɛa], as in *matur* [mɛa:(<sup>h</sup>)tʊɹ] ‘food’. Given our fission hypothesis, there may seem to be no internal motivation for fission in these segments since they should only have contained the simple colours, respectively, {I}, {U}, and {A}.

In fact, although diphthongization in pure vowels is unexpected from the point of view described above, /i/ and /u/ have been known to diphthongize, notably in West Germanic, where historical [i:] and [u:] have become [ai] and [au] in the Great Vowel Shift. It has been suggested that a part of the reason for the diphthongization of these high vowels in English is their lack of sonority, and Miglio (1999: 229) proposes a ‘cooccurrence constraint against high vowels being long’. But it should also be noted that in English the diphthongization is a part of the Great Vowel Shift as a chain reaction, since the diphthongization of /i:/ in *tide* (ME [ti:d]) and *loud* (ME [lu:d]) secured the opposition with newly developed high vowels in *geese* and *goose* (see e.g. Lass 1984: 126–9).

And in fact, the situation in Faroese is similar to that in English, since we noted in section 2.5 that there was no lowering in Faroese old short vowels, so that the quantity shift lengthening of old short /i/ and /u/ created sounds which might have merged with the old /i:/ and /u:/. The originally short vowels of *síla* ‘to fertilize (of fish)’ and *litur* [li:tor] ‘colour’ which give us MF [si:la] and [li:tʊɹ] kept their colours and were lengthened; and the same goes for *gulur* ‘yellow’ and *munur* ‘difference’ which give MF [ku:lʊɹ] and [mu:nʊɹ]. The reaction of the old long high vowels can thus in part be interpreted as a push-chain phenomenon, like the English vowel shift, caused by the melodic proximity of the lengthened old /i/ in *litur* [li:tor] ‘colour’, which put pressure on the vowel in *lítill* [lɔi:tɪl] ‘small’, and similarly the lengthening of /u/ in *lutur* [lu:tor] ‘thing’ put pressure on the vowel in *lútur* [lɯu:tor] ‘base’.

Another important fact to be noted in this context is the Faroese merger of old long /i:/ and /y:/, as in MF *ísur* [ɔi:sʊɹ] ‘ice’ and *sýna* [sɔi:na] ‘to show’ (Andersen 1972: 22, see also Rischel 1967–68). We saw in section 2.4 that in Icelandic the old /i:/ merged with old rounded /y:/ by the delabialization of the latter, but in Faroese the phonetic conditioning of the merger was drastically different. Instead of delabialization of old [y:], it happened through labialization of long [i:]. And once the vowel of *lítill* ‘little’ became rounded, the road was open for fission to [ɔi:] in the same way as

in *sýra* 'acid', in other words, the fission affected the rounded outcome of the merger. In fact, a similar story can be told of the Faroese diphthongization of the 'pure' /a/ in *matur* [mæa:(<sup>h</sup>)tʊɹ] 'food'. This vowel merged with the one in *hællur* 'heel', which was low front unrounded in CWN, but has been diphthongized to [ɛa] in MF.

From the historical point of view the simplest account of the merger and diphthongization of old /i:/ and /y:/ would thus be that the result of the merger was a rounded vowel. This would then have involved some sort of enhancement or saturation of the original [i]-sound in *lítil* 'little' by a U-type colour. And in fact one of the general differences between the Icelandic and Faroese development lies in the function of rounding; delabialization was one of the stronger trends in the history of Icelandic vowels, but it is less typical of Faroese, where rounding seems to be fairly strong. It might thus be said that the Faroese style of utterance or articulatory setting was more favourable to rounding (or flatness) than the Icelandic setting.

As regards the old long /u:/, which has diphthongized to [uu], the dilution or saturation which preceded the diphthongization might be seen as a centralizing tendency, representable by the centralizing element @, or a demotion of U to the status of operator: {\_, U}. Once this happened, the 'impure' or centralized segment {@, U} might have undergone fission, creating two branches on the melodic tier, the first one being occupied by the neutral element (or an empty head) and the second by the U. Another (admittedly somewhat vague) metaphor might be to say that there was some sort of 'over-saturation' in the system. Adding U-colour to an already U-coloured entity could only lead to 'extremities'. Still, referring to the teleological metaphor, it could be said that this centralization happened to avoid merger with the vowel being lengthened in forms like *suður* 'south', MF [su:wʊr].

In any case we can picture the Faroese push chain as in (3.16):

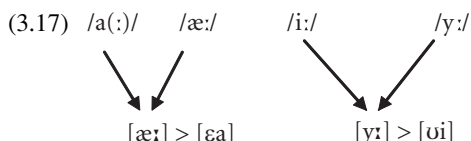
$$(3.16) \quad /i/ \rightarrow /i:/; [y:] \rightarrow [\text{ui}] \quad [\text{uu}] \leftarrow [\text{u:}]; /u:/ \leftarrow /u/$$

This is the result of the combined effect of the tendency to maintain contrast (corresponding to some sort of faithfulness to pre-existent contrasts), and the saturation of the system with more U-colour than 'was good for it', leading to centralization in the case of old /u:/.

As regards lengthened /a/ in *matur* 'food', MF [mæa:(<sup>h</sup>)tʊɹ], there is, as noted, a similar situation to that of /i/ in that /a/ was first raised, merging with the old /æ/ (/ɛ/) of *læra* 'to learn', which then was diphthongized, giving the same diphthong as in MF: [ɛa:ɹa]. So, we can see the development of the pure vowels in Faroese *ís(ur)* as starting with a rounding tendency, a sort of *fusion* or *saturation* of the vowel colours, by an addition of U to /i:/ giving [y:] (with {U, I} as a vocalic nucleus), and in *matur*, we have addition of I in /a/, giving something like [mæ:(<sup>h</sup>)tʊɹ] (with {I, A} as a vocalic nucleus). In both cases this led to a merger of vowels, and subsequently fission took place giving the modern diphthongs.

This rounding of old /i:/ and raising of old /a/ in some sense formed the phonetic prerequisites for the diphthongization of the originally pure sounds and the inputs to

diphthongization in *ís* and *matur* were not the original pure /i:/ and /a(:)/, but rather the mixed [y] and [æ], resulting from a previous merger, as shown in (3.17):



Both of these diphthongizations can be seen as due to *fission*, although there is a difference in the chronology, since in the case of /y:/ the diphthongization most likely occurred earlier than the vowel-shortening part of the quantity shift (the first indication of the merger is in a document from 1584, see Thráinsson et al. 2004: 373, 394), giving diphthongs in both long and short environments: *ísur* [oi:suɪ] ‘ice’; *Ísland* [oistlant] ‘Iceland’, whereas the latter only gave a diphthong in long environments: *vaka* [væa:(<sup>h</sup>)ka] ‘to be awake’ vs *vakti* [va<sup>h</sup>kti] ‘be awake-PAST’.

All in all, the vowel developments in Icelandic and Faroese can be seen as an interplay of tendencies which may be classified as enhancement and weakening or demotion of respective vowel colours. Thus the lowering of the old short vowels in Icelandic (/i/ > [ɪ] ; /e/ > [ɛ] ; /o/ > [ɔ]) can be seen as a strengthening or tendency to ‘uprank’ the element A. On the other hand the development of vowels in Faroese was more favourable to the high elements, I and U, and even @ as a velarizing or centralizing element.<sup>10</sup> In Icelandic such a tendency can be seen as active in the centralization and eventual fronting of the originally back short vowels in Icelandic: /u/ > [ʏ], as in *suður* ‘south’ [sy:ðʏr̥]; /o/ > [œ], as in *för* [fœ:r̥] ‘journey’.

### 3.5 THE MODERN DIPHTHONGAL SYSTEMS

The result of the changes described above was that both languages have a number of diphthongs which take part in the creation of vocalic nuclei in stressed (or more precisely stressable) syllables. It was noted in section 3.2.2 that the crucial stage in diphthongization as a development is the melodic branching and the creation of the new root nodes with which the different melodic parts of the diphthongs could be associated, justifying the melodic split. According to this, a diphthong is a concatenation of two vowel colours forming a unit in the phonotactic buildup of syllables.

In Icelandic these diphthongs are all falling with respect to sonority, and as further discussed in Chapter 4, they can be analysed in terms of concatenation of vocalic

<sup>10</sup> An interesting comparison can be made here with the diphthongal processes treated by Hayes (1995: 52–62), particularly those that have taken place in Scanian Swedish and Canadian French. Hayes analyses the changes in terms of raising or lowering in vowel colours due to the addition or deletion of the element (in Hayes’s terminology: *particle*) A at the left or right edge of a vocalic nucleus (which seems to come close to being the same as what we call saturation).

qualities, which also appear as monophthongs, with a following /i/ or /u/. The diphthongs are listed in (3.18) as /i/-diphthongs and /u/-diphthongs:

- (3.18) /i/-diphthongs    /u/-diphthongs  
           /ei/ /ai/ /öi/        /au/ /ou/

The situation in Faroese is more complicated. In addition to the /i/ diphthongs and /u/ diphthongs shown in (3.19a) we also have two /a/ diphthongs shown in (3.19b):

- (3.19) a. /öi/ /ei/ /ai/ /oi/    /u/ /au/ /ou/  
           b. /ea/ /oa/

It will be argued in Chapter 5 that the Faroese diphthongs, like the Icelandic ones, can be analysed in terms of a concatenation of vowel colours which occur independently as monophthongs. The principle is that the diphthongs can be defined by a sort of algorithm stating that a diphthong is well formed if it takes the form of a combination of an independently occurring vowel colour which combines with /i/, /u/, or /a/. It will be argued below that the analysis of the MI and MF diphthongs fits well with this conception, in that the colours associated with each of the nodes of the diphthong are independently justified.

But moving (mono-)segments also exist, as we shall see, since in both Icelandic and Faroese mid vowels like MF /o/ in *tola* 'to endure' can, beside the monophthongal [t<sup>h</sup>o:la], be pronounced as [t<sup>h</sup>oɔ:la], /æ/ in *høgur* 'high-M' [hœ:ʋʊɪ] can be diphthongized as [høœ:ʋʊɪ], also: *frekur* 'greedy' [frœ:kʊɪ]. Similarly, the Icelandic low mid vowels in *koma* 'to come', *fögur* 'beautiful-FEM', and *selur* 'seal' tend to be diphthongized, giving pronunciations like [k<sup>h</sup>oɔ:ma], [føœ:ʏʏɪ], and [seɛ:lyɪ].

In the following analysis of the vocalic systems of MI and MF a distinction will then be made between different types of diphthong, according to their status in the system and the relation to other segments. On one hand there are what may be called **true diphthongs**, a true diphthong being defined as a *vocalic nucleus which has a melodic contour, the parts of which can be identified with other noncontour units in the same system*. Thus /au/ in Icelandic *lata* [lau:ta] 'let' is a true diphthong in that its constituents can be identified with the noncontour segments /a/ as in *lata* [la:ta] 'lazy' and /u/ as in *lúta* [lu:ta] 'to bow'. These diphthongs are phonemic and take part in the phonotactic buildup at the level of lexical phonology.

In contrast to these true diphthongs, it is possible for segments to have a movable quality without these qualities being identifiable as separate units in the system. This is the case in MI with the long variants of the mid vowels mentioned above in words like *koma*, *fögur*, and *selur* i.e. [k<sup>h</sup>oɔ:ma], [føœ:ʏʏɪ], and [seɛ:lyɪ]. Although there is often quite clearly a change in quality from the beginning to the end, it is not clear that the component parts can be identified with a phonemic unit occurring separately. A **contour segment** can then be identified as a segment with a (phonetically motivated) difference in melody between the onset and the offset (cf. Andersen's distinction mentioned in Fn. 6, p. 45).

We will also have occasion to distinguish between what may be called **pure diphthongs** and **impure diphthongs**. The former type is composed of pure vocalic

elements like [A], [I], and [U] (e.g. /ai/ and /au/), whereas an impure diphthong would be one where at least one of the constituents has a mixed vocalic quality. Thus /ou/ is an impure diphthong, since the first constituent corresponds to mixed vowel colour /o/ (i.e. {A, U}).

It is important to remember always that the relation between the melodic representation and the measure of time is only indirect.

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## Part II

### The modern sound systems



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## THE ICELANDIC VOWEL COLOURS AND DIPHTHONGS

In this chapter an overview will be given of the vowel melodies of modern Icelandic, consisting of eight monophthongs and five (true) diphthongs, which participate in a correlation of length (or shortness), with syllable structure (to be further scrutinized in Chapters 9 and 10). These are the phonemic units used syntagmatically in the phonotactic buildup at the input level and paradigmatically to express lexical distinctions and morphophonemic relations (see Chapter 12). It will be shown that in Icelandic the same systemic options are open to all syllables regardless of stress or position in the word. Thus unlike Faroese and Old Icelandic, there are no restricted syllables, with a special systematic limit on the number of oppositions.

### 4.1 THE ICELANDIC VOWEL SYSTEM

#### 4.1.1 *The monophthongal units*

Modern standard Icelandic has the following eight monophthongal vowel qualities (the phonemic units are represented by IPA symbols within slashes and the most common symbols used in normal spelling are given in parenthesis):

- (4.1) /i/ (*í*) *líta* [li:ta] ‘to look’  
 /ɪ/ (*i*) *litur* [li:tʏɾ] ‘colour’  
 /ɛ/ (*e*) *leti* [l(e)ɛ:ti] ‘laziness’  
 /a/ (*a*) *tala* [[t<sup>h</sup>a:la] ‘to speak’  
 /ʏ/ (*u*) *sumar* [sʏ:mar] ‘summer’  
 /œ/ (*ö*) *fögur* [f(ø)œ:ʏɾ] ‘beautiful-FEM’  
 /ɔ/ (*o*) *koma* [k<sup>h</sup>(o)ɔ:ma] ‘to come’  
 /u/ (*ú*) *kúla* [k<sup>h</sup>u:la] ‘ball’

In addition there are five ‘true’ phonemic diphthongs according to the description given in section 3.5, that is they can be analysed as involving a concatenation of vocalic colours which occur separately as monophthongs in the language. Each diphthong is a combination of one of the monophthongs in (4.1) followed by [i] or [u]. The latter qualities are the ones that the system supplies as second less sonorous constituents, but they can be seen as corresponding to the high monophthongal phonemes /i/ and /u/.

## (4.2) /i/-diphthongs:

Unrounded:

/ai/ (æ) *læti* [lai:tɪ] ‘commotion’; /ei/ (ei) *leita* ‘to search’ [lei:ta]

Rounded:

/œi/ (au) *auður* [œy:ðʏr̥] ‘wealth’

/u/-diphthongs:

/ou/ (ó) *dómur* [tou:myr̥] ‘judgement’; /au/ (á) *láta* [lau:ta] ‘to let’

This analysis of the diphthongs has a straightforward phonetic reference in the case of /ai/, /ei/, /au/, and /ou/. The u-diphthongs are respectively combinations of /a/ and /o/ with /u/ as a second constituent, and among the /i/-diphthongs /ai/ and /ei/ are respectively combinations of /a/ and /ɛ/ with /i/. Thus, for example, /ei/ can be seen as a concatenation of the vocalism of /ɛ/ in *leti* ‘laziness’ and /i/, which corresponds to the vowel in *líta* ‘to look’. Similarly, /ai/ in *læti* [lai:tɪ] ‘commotion’ can be seen as a concatenation of /a/ as in *tala* and /i/ as in *líta*; and /ou/ in *dómur* [tou:myr̥] ‘judgement’ can be seen as a concatenation of /ɔ/ as in *koma* and /u/ as in *kúla* ‘ball’, and /au/ in *láta* [lau:ta] ‘to let’ as a concatenation of /a/ as in *tala* followed by /u/ as in *kúla*.

There is a slight complication in the case of /œi/ in that the diphthong is usually represented phonetically as [œy], suggesting a rounded second component. But, as argued in section 4.1.4 below, it is natural to derive this from an /i/ with rounding spread from the [œ]-component as a phonetic effect due to co-articulation.

The eight monophthongs and the five diphthongs make up the system of phonemic vowel contrasts in the standard language. Each of these vowels has a pair of long and short variants, as shown in (4.3):

## (4.3) Long

## Short

## a. Monophthongs:

*dýr* [ti:ɾ̥] ‘expensive’; *dýrar* [ti:raɾ̥]  
‘expensive-F.PL’

*dýrð* [tir.ð] ‘glory’

*byr* [pɪ:ɾ̥] ‘breeze’; *byrinn* [pɪ:rɪn] ‘the breeze’

*byrði* [pɪr.ði] ‘burden’

*ber* [pɛ:ɾ̥]/[pɛɛ:ɾ̥] ‘carry-SG’, *bera* [pɛ:ra]/[pɛɛ:ra] ‘to carry’

*berðu* [pɛr.ðʏ] ‘carry-IMP’

*bar* [pa:ɾ̥] ‘bar-INDEF’; *barinn* [pa:rɪn] ‘the bar’

*barði* [par.ði] ‘hit-PAST’

*bor* [pɔ:ɾ̥]/[pɔɔ:ɾ̥] ‘drill’; *borinn* [pɔ:rɪn]/[pɔɔ:rɪn]

*borða* [pɔr.ða] ‘to eat’

*búr* [pu:ɾ̥] ‘cage’; *búrið* [pu:rɪθ] ‘the cage’

*búrs* [puɾ̥.s] ‘cage-GEN’

*bur* [py:ɾ̥] ‘son’; *burinn* [py:rɪn] ‘the son’

*burtu* [pyɾ̥.tʏ] ‘away’

*för* [fœ:ɾ̥]/[fœæ:ɾ̥] ‘journey’; *förin* [fœæ:rɪn] ‘the journey’

*förðun* [fœr.ðʏn] ‘makeup’

## b. Diphthongs:

<i>bær</i> [pai:.r̥] ‘farm’; <i>bærinn</i> [pai:.rɪn] ‘the farm’	<i>bærði</i> [pair.ðɪ] ‘moved’
<i>auð</i> [œy:.θ] ‘empty’; <i>auður</i> [œy:.ðyɾ̥] ‘wealth’	<i>auðna</i> [œyð.na]/[øð.na] ‘fate’
<i>neyð</i> [nei:.θ] ‘emergency’; <i>eyða</i> [ei:.ða] ‘waste’	<i>eyðni</i> [eið.nɪ]/[eð.nɪ] ‘aids’
<i>ál</i> [au:.l̥] ‘eel-ACC’; <i>álar</i> [au:.laɾ̥] ‘eels’	<i>álnir</i> [aul.nɪɾ̥] ‘wealth’
<i>sól</i> [sou:.l̥] ‘sun’; <i>sólar</i> [sou:.laɾ̥] ‘sun-GEN’	<i>sólna</i> [soul.na] ‘suns-GEN’

As can be seen from the examples, the distribution of long and short vowels is regular, following a ‘length rule’, which has its roots in the quantity shift. According to this rule, which will be discussed in more detail in sections 9.3 and 10.2, open syllables (including word-final VC syllables which are open by ‘extrametricality’ or catalexis, as indicated in the phonetic transcription), have long vowels, whereas closed syllables have short vowels. Thus there is a regular correspondence, often in transparent morphological paradigms, between a long vowel in disyllables with simple interludes like *bera* [pɛ:.ra]/[pɛɛ:.ra] ‘to carry’ and the monosyllabic *ber* /be.r/ [pɛ:.r̥]/[pɛɛ:.r̥] ‘he carries’, and a short one in *berðu* ‘you carry-IMP’ with two intersyllabic consonants. In this latter case the first syllable is closed: [pɛr.ðy]. (There is a complication in the rule, to be discussed in section 9.3 below, in that certain consonant clusters form well formed onsets to the following syllable, including interludes with /p, t, k, s/ followed /v, j, r/ in such forms as *vökva* ‘to water’, *flytja* ‘to move’, *titra* ‘to vibrate’.)

To account for the long and short variants, a fairly obvious way might be to assume long (bimoraic) and short (monomoraic) allophones, conditioned by syllable structure (see e.g. Gussmann 2002: 19–31 for such an analysis and a more traditional expression in Árnason 1980/2009: 33–43). But although ideally there is isomorphism in melodic structure between the long and short vowels, so that both variants have more or less the same quality, there is, as we have seen, and as discussed more thoroughly in section 8.1, a tendency to differentiate between the quality of long and short vowel nuclei, for example, so that short diphthongs tend to become monophthongs (cf. e.g. *auðna* [œyð.na]/[øð.na] ‘fate’) and some long monophthongs develop diphthongal variants (cf. e.g. *bor* [pɔ:.ɾ̥]/[pɔɔ:.ɾ̥] ‘drill’). This tendency has gone even further in Faroese, as we shall see in Chapter 5. And as shown in Árnason (1998a) and further discussed in section 9.1.4 below, there are also prosodic complications (like ‘overlength’), which can be taken as an indication that vowel length is less dependent on syllable structure in Modern Icelandic than implied by the length rule as traditionally formulated. We will leave these issues aside for the moment, but concentrate on the phonetic description and the phonological analysis of the vowel colours.

4.1.2 The phonetic description of the vowel sounds

From the articulatory point of view, the system of Icelandic monophthongs can be (and has been) presented as in (4.4) (e.g. Árnason 2005a: 125, 2005b; Einarsson 1945: 1–11):

(4.4)

	Front		Back	
	Unround	Round	Unround	Round
High	[i]			[u]
High-mid	[ɪ]	[ʏ]		
Low-mid	[ɛ]	[œ]		[ɔ]
Low			[a]	

Some phonetic details can be expressed in a narrower type of transcription. For example, the low unround vowel in *bar* ‘carried’ is more central than back, and should be transcribed as [ɐ] in narrow transcription, and there is also some ambiguity in the representation of the high-mid vowels. It is a matter of opinion whether they are seen as lax versions relative to the high vowels, as indicated by the symbols used, or as a separate tier in the system, as reflected in their characterization as high-mid. In some phonetic descriptions (e.g. Ófeigsson 1920–24) the symbol [ø] has been used to represent the front rounded sound in ending syllables like in *sudur* ‘south’. As already mentioned and as shown in the phonetic transcription of forms like *ber*, *bor*, and *för* in (4.3), the mid vowels are often diphthongal when pronounced with full length, something which we will come back to in later discussion.

A fairly detailed investigation into the acoustics of Icelandic monophthongs was undertaken in Svavarsdóttir et al. (1982). The results for long vowels are shown in Table 4.1.

TABLE 4.1 The first three formants of vowels in Icelandic according to Svavarsdóttir et al. (1982: 75).

	<b>F<sub>1</sub></b>	<b>F<sub>2</sub></b>	<b>F<sub>3</sub></b>
	<b>Male/Female</b>	<b>Male/Female</b>	<b>Male/Female</b>
[i:]	275/304	2229/2613	2788/3042
[ɪ:]	363/521	2017/2317	2654/2908
[ɛ:]	471/617	1813/2075	2692/2800
[ʏ:]	392/533	1533/1888	2208/2642
[œ:]	479/575	1367/1646	2350/2675
[u:]	354/504	738/792	2533/2588
[ɔ:]	463/554	854/958	2206/2618
[a:]	696/783	1246/1517	2429/2663

The numbers show the average frequency in Hz. The figures before the slash show the average for men, and the figures after the slash show the figures for women.

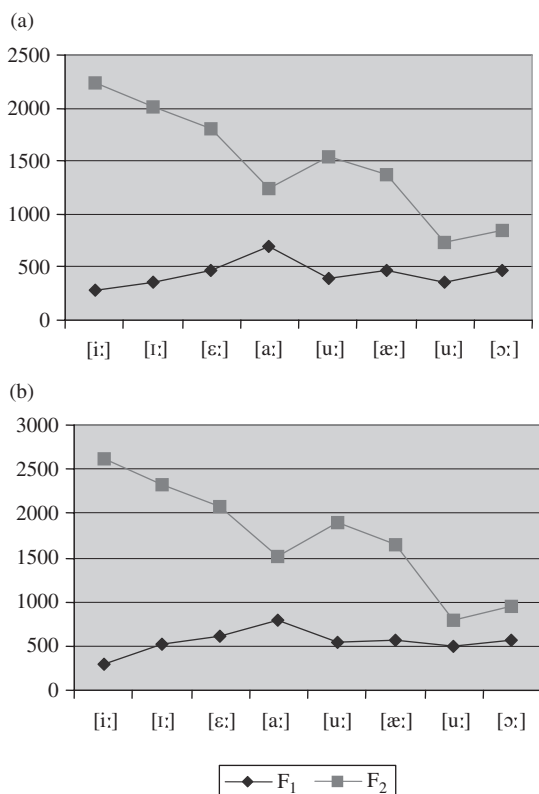


FIGURE 4.1 Formant frequencies for Icelandic long vowels, (a) males and (b) females  
**Source:** Svavardóttir et al. 1982.

As shown graphically in Figure 4.1, the relation between F<sub>1</sub> and F<sub>2</sub> conforms to the traditional vowel chart analysis, so that, for example, /i/ can be characterized as *diffuse*, /a/ as *compact*, and the rounded vowels as *flat*.

#### 4.1.3 Analysing the monophthongal colours

Based on these phonetic findings, we can now propose a representation of the Icelandic monophthongs with the help of the elements I, A, and U.

Starting with the simplest vowels, we can say that /i/ is a pure vowel, having I as the sole element, and correspondingly /a/ is pure A, and /u/ is pure U. Utilizing the potential for elements to enter into an asymmetrical relation with one element forming the head of the (co-catenative) structure and another an operator (modifying the head), it is easy to account for the eight vowel qualities. Thus Icelandic /ɪ/ and /ɛ/ are combinations of I and A, the former with I as head: {I.A}, and the latter with A as head: {A.I}.

In this way it would be possible to represent the Icelandic high mid or lax /ɪ/ as a construction with the I as an operator, that is as {I, @} or simply {I, \_}, and correspondingly the /ʏ/ can be seen as a construction where I and U are combined as operators in a headless construction, giving {I, U, \_}. Describing /ɔ/ involves the addition of U to A. The most complex segments by this measure are /ʏ/ and /æ/, where [U] is added to the already bleached or mixed /ɪ/ and /ε/.

- (4.5) /i/ {I}  
 /ɪ/ {I, \_}  
 /ε/ {I, A}  
 /æ/ {I, A, U}  
 /ʏ/ {I, U, \_}  
 /a/ {A}  
 /ɔ/ {A, U}  
 /u/ {U}

#### 4.1.4 The diphthongs as branching phonemic units

There are, as we have seen, good grounds for assuming that the diphthongs listed in (4.3b) are independent phonemic units in the lexical phonological system on a par with the monophthongs. The correspondences in (4.3) show that their function in phonotactics is the same as that of the monophthongs, and they play the same sort of role as the monophthongs in building well formed phonological structures (syllables and subsyllabic constituents, as shown in Chapter 9). The diphthongs have short correspondents in closed syllables, in much the same way as the monophthongs. Also, the morphophonemic patterns, deriving from the historical ablaut and umlaut series (cf. Chapter 12), make no principled distinction between diphthongs and monophthongs, so that stems have paradigms where monophthongs and diphthongs form more or less regular alternation patterns. This is shown in paradigms like *bjóða* [pjou:ða] 'to invite', *byð* [pi:θ] 'invite.PRES-1SG', *bauð* [pøy:θ] 'invited-SG', *budum* [pʏ:ðʏm] 'invited-PL', *boðið* [poɔ:ðiθ] 'invite-PAST.PART', where monophthongs and diphthongs alternate indiscriminately in the paradigm.

The fact that there are both long and short diphthongs shows that as such they are 'timeless', that is they are neither long nor short by 'nature'. But they can still be seen as concatenated vowel colours, that is, for each diphthong there are two constituents or branches, each with its own melody. And since the separate parts of the diphthongal contours can be identified with separate monophthongal colours within the same system, as shown in section 4.1.1, they are true diphthongs in the sense defined in section 3.5.

A reasonable question to ask at this stage is whether the identification of the constituent parts of the diphthongs with separately occurring monophthongs predicts that the system should have a free combination of all the simple vowel colours. One might perhaps expect the system to 'generate' all mathematically possible combinations of two vowel colours, that is /ae/, /æe/, ... /uɔ/, etc., which obviously do not exist. One reaction to this problem might be to see the absence of such diphthongs as some

kind of accidental gap (or a set of gaps). It is well known that for historical reasons languages do not make use of all the possibilities defined by their phonological principles. Under such conditions the absence of structurally possible combinations are typically a result of the history: there are simply no historical sources in the vocabulary for the language to make use of all phonological possibilities, although some of the phonological gaps may then be filled by borrowed forms, opening the way for 'borrowed phonemes' such as the initial /p/ in Old Norse, and /v/ in Middle English. These sounds are limited to non-Germanic loans like *prestur* 'priest' in Icelandic and *very* for English. In fact, we will see that there are cases where 'new' diphthongs fill some of the gaps in the Modern Icelandic system.

But looking more closely at the Icelandic system, it is also possible to assume some principled constraints or 'selectional restrictions', limiting the actual number of possible diphthongs. One such principled restriction is the requirement for falling sonority, manifested in the fact that only the second constituents in Icelandic diphthongs are \*/i/ or \*/u/. This considerably limits the number of accidental gaps. Another possible type of structural restriction might be in terms of restrictions on the co-occurrence of elements in the respective constituents. Thus, Icelandic has no u-diphthong with a first constituent containing the I-element (i.e. there are no \*iu, \*Iu, \*eu, \*øu, or \*yu). This might seem like a natural principle and could be abbreviated as \*I-U, stating that a branching segment which has a prominent I in the first component and a prominent (or ungoverned) U in the second component is not allowed. This particular constraint might, of course, not be effective for other languages, including Faroese, which has several diphthongs with this sort of combination (cf. Chapter 5).

The Icelandic /i/-diphthongs are more varied than the u-diphthongs, since a rounded first constituent is allowed, for example in /œi/ [œy]. Thus the sequence U-I is not categorically prohibited, and the rounding of the second component shows that the U-colour spreads phonetically onto the /i/ constituent. It remains to be seen whether the absence of other mathematically possible combinations of qualities, for example /ui/ or /ti/, is principled, but it is interesting to note that the absence of [yi] and [ɔi] in the inventory described in (4.2) above seems in fact to be accidental. These sounds are known to occur in the pronunciation of loans like *týpa* 'type' and *oldboys* 'old boys'. The Danish borrowing *týpa*, which has a high rounded [y] in Danish *type* [t<sup>h</sup>y:pa] is commonly pronounced [t<sup>h</sup>i:pa] in Icelandic with a regular unrounded vowel, but it may also be pronounced with rounding, in which case the rounding and the high or tense character seems to be obtained by concatenation, so that the first part corresponds to /y/ and the second part to /i/, giving [t<sup>h</sup>yi:pa]. Similarly, for *oldboys*, the English [oi] is imitated by concatenation of /ɔ/ followed by /i/, giving [oultɔis]. So it seems that the absence of these diphthongs from the traditional vocabulary is not structurally conditioned. And we shall also see in the next section that one possible analysis of native forms like *hugin* [hvi:ji] 'the mind-ACC' and *bogi* [pɔi:ji] 'bow' is precisely in terms of the latter type of diphthongs, although another analysis of the forms in question is also possible.



To conclude, we therefore propose that the set of phonemic diphthongs in MI can be presented as in (4.6):

(4.6)	/●/	/●/	/●/
	Λ	Λ	Λ
	A I	I I	I I
		<u>A</u>	A
			U
	/ai/ [ai] (æ)	/ei/ [ei] (ei)	/œi/ [œy] (au)
	/●/	/●/	
	Λ	Λ	
	<u>A</u> U	A U	
	U		
	/ɔu/ [ou] (ó)	/au/ [au] (á)	

It is worth stressing once more, that although syntagmatically the melodic composition of the diphthongs is seen as a concatenation of vowel colours, which may be associated with independently occurring monophthongs, from the paradigmatic point of view they are on a par with monophthongs in the phonotactic structure (as indicated by the bullets). Our analysis takes them to be independently defined units in the lexical representation, and they may take part in morphophonemic paradigms in the same way as monophthongs. They function as units in the lexical system and are basic expressions in the lexical phonological inventory in the sense of Coleman (1998: 18–45), who makes a distinction between basic expressions or strings in the alphabet associated with the phonological analysis and the concatenation of such basic expressions. One way to interpret this is to see the diphthongs as phonological ‘idioms’, that is as phonemic units with internal structure. (Somewhat in the way that idioms, such as *kick the bucket*, form lexical units consisting of a sequence of morphological and phonological words.)<sup>1</sup>

To sum up, the Icelandic vowel system consists of eight vowel qualities, and five true diphthongs, where one of the monophthongal qualities joins /i/ or /u/.<sup>2</sup> The fact

<sup>1</sup> A general question is whether all true diphthongs are basic expressions in this sense or whether there are diphthongal systems where the units are more freely concatenated. Hayes’s conclusion (1990) seems to be that we can have both types, but this brings up the question of how to characterize the string characteristics of the monosegmental diphthongs, which begin as one thing and end as another. Are they a third type of category?

<sup>2</sup> It is worth mentioning at this stage that in traditional school grammar, the modern Icelandic vowel system is sometimes divided into two groups, called ‘broad vowels’ (*breið sérhljóð*) and ‘slender vowels’ (*grönn sérhljóð*). The broad vowels correspond to historical long vowels (which have an acute accent in the modern orthography) and diphthongs: /í, ú, ó, é, á, æ, au, ei/. It is not clear that this dichotomy has any significance in the present day system, but some distributional tendencies can be identified, and scholars have noted that the class is phonetically natural in that they all end in [i] or [u]. In Árnason 2005b, they are, e.g., called the /i/-sounds and the /ú/-sounds.

that mixed vowel colours are allowed as first components of the diphthongs contributes to the richness of the diphthong inventory, /*ɛi*/, /*œi*/, and /*ou*/ being impure diphthongs in the sense defined in section 3.5, whereas /*ai*/ and /*au*/ are pure diphthongs on the same parameter, both components being pure vowel qualities.

#### 4.1.5 Diphthongs and hiatus

It was mentioned in the preceding section that, beside the phonemic diphthongs shown in (4.2), two diphthongs have been noted to occur in special environments in forms like the ones in (4.7), where related forms with monophthongs show that the diphthongs have developed in special environments, that is before a palatal glide or fricative:

(4.7) Diphthongal form	Monophthongal form
<i>bogi</i> [pɔːji] ‘bow-NOM.SG’	<i>boga</i> [pɔːɣa] ‘bow-ACC.SG’
<i>huginn</i> [hyːjin] ‘mind-ACC’	<i>huga</i> [hyːɣa] ‘mind-ACC.SG’

As mentioned above, it might be possible to look on the diphthongs in (4.7) as fillers of accidental gaps in the diphthongal system. And in fact, according to many traditional descriptions the phonemic /*i*-diphthongs, /*ɛi*/, /*œi*/, and /*ai*/, occur in similar circumstances, as shown in (4.8):

(4.8) Diphthongal form	Monophthongal form
<i>daginn</i> [taijn] ‘day-DAT.SG;DEF’	<i>dagur</i> [taːyʀ] ‘day-NOM.SG’
<i>löginn</i> [lœyjɪn] ‘law-NOM.PL;DEF’	<i>lögum</i> [lœːɣʏm] ‘law-DAT.PL’

Generative accounts have assumed that in the left-hand columns, diphthongization has taken place before /*j*/ (see e.g. Rögnvaldsson 1993), which has developed historically from /*ɣ*/ by palatalization and/or deletion in front of the /*i*/. (This is reflected in the spelling of *daginn* and *löginn* with *g*, the normal representation for intervocalic [ɣ]). The diphthongal forms are homonymous with forms written without *g*, so that e.g. *daginn* [taijn] rhymes with *bæinn* [paijn], and *sveigja* [sveija] ‘to bend’ rhymes with *sveia* ‘to fie, curse’. This can be interpreted so that the historical /*ɣ*/ has been deleted or become a palatal glide before /*i*/.

There is a traditional dialect division in the pronunciation of forms like *bogi*, *huginn*, *daginn*, and *login*, since in an area mainly limited to the south-east, these forms, instead of having diphthongal forms as in (4.7) and (4.8), are pronounced with a long vowel: [pɔːːji], [hyːːji], [taːːjn], and [lœːːjn]. This dialect variant is traditionally called ‘monophthongal pronunciation’, and the usual account would be that this dialect lacks the diphthongization rule.

However, the historical development of these forms is not as simple as it might appear (cf. Harðarson 2007; Þorgeirsson forthcoming), and the synchronic structure is not unambiguous. The diphthongal variants of *bogi*, *hugi*, *daginn*, and *löginn* have in fact been transcribed phonetically in various ways. One way is to transcribe them as in (4.7) and (4.8), with a diphthong followed by [j] without using a length mark (and this will be our normal practice in what follows). But many scholars, for example

Pétursson (1978: 45) and Ófeigsson (1920–24), assign length to the second part of the diphthong in the phonetic transcription: [tai:jɪn] etc., whereas Rögnvaldsson (1993: 83) assigns a length mark to the [j]: *hagi* [haj:ɪ] ‘field-NOM.SG’, [pɔj:ɪ], *daginn* [taɪ:jɪn], [hyj:ɪ] etc.

The discord regarding the phonetic representation of these forms indicates a problem in the analysis and syllabification of the diphthongal variants. In fact, since the interlude is filled by a vocalic or semi-vocalic glide [i] or [j], the forms are somewhat like hiatus forms, which are a constant source of questions regarding phonological analysis. And one way of analysing the diphthongal forms in (4.7) and (4.8) is to see them as having geminate glides, that is glides which simultaneously form a coda belonging to the preceding syllable and an onset belonging to the following one—something like /haj.jɪ/, /pɔj.jɪ/, etc. The monophthongal variant is less problematic from the point of view of phonological parsing, since there is general agreement that in this dialect forms like *daginn* and *lögin* have long vowels: [ta:jɪn], [lœ:jɪn], which means that they can be syllabified as /ta.jɪn/ etc. with open syllables. (See sections 9.5 and 12.8 for the synchronic analysis of intervocalic glides.)

Before moving on, one further example of morphophonemic alternations, similar to those discussed above should be mentioned:

- |       |   |                                       |
|-------|---|---------------------------------------|
| (4.9) | ‘Diphthongal’ form                            | Monophthongal form                    |
|       | <i>stigi</i> [stiiɪ]/[sti:jɪ] ‘ladder-NOM.SG’ | <i>stiga</i> [sti:ɣa] ‘ladder-ACC.SG’ |

The similarity between the paradigms above is that there is alternation between a ‘monophthongal’ form with a ‘lax’ long vowel before a velar fricative and a ‘diphthongal’ one before a palatal glide. There is a further parallelism with the examples discussed above in that there is a ‘monophthongal’ dialect variant for the form *stigi* ‘ladder’ with a long [ɪ]-vowel: [sti:jɪ]. As in the other cases, and as shown in (4.9), the ‘diphthongal variant’ is variously transcribed with a diphthong [ii] or long [i:]. The phonetic difference between sounds transcribed as a long [i]-sound and a sequence like [ii] would of course seem to be minimal, but one possible interpretation is to see the potential diphthong [ii] in *stigi* as filling yet another gap in the diphthongal system. In fact it was suggested by Haugen (1962) that the high or ‘tense’ [i]-sound of Icelandic should in general be analysed as a ‘diphthong’ of this sort, that is /ij/, so that a form like *líta* [li:ta] ‘to look’ should be analysed phonemically as /lijta/, and similarly [u:] should be seen as /uw/, giving something like /kuwla/ as a phonemic transcription of *kúla* [k<sup>h</sup>u:la] ‘ball’. We shall return to the problem of analysing these forms in section 9.5.

## 4.2 THE VOWELS OF NON-INITIAL SYLLABLES

The non-initial syllables of simplex (non-compound) native words in MI typically have inflectional or derivational endings, as shown in (4.10):

## (4.10) Disyllables

*hestar* ['hɛstar] 'horses', *gestir* ['cɛstɪr] 'guests-NOM', *gestum* ['cɛstɪm] 'guests-DAT', *kallar* ['kʰatlaʁ] 'calls', *fríðust* ['fri:ðʏst] 'prettiest', *afurð* ['a:vʏrθ] 'product', *kenning* ['cɛn:ɪŋk] 'theory'

## Trisyllables

*kallaði* ['kʰatlaðɪ] 'called', *hesturinn* ['hɛstʏrɪn] 'the horse', *sterkari* ['stɛrkaɾɪ] 'stronger', *sterkastur* ['stɛrkaʃtʏr] 'strongest', *kjallari* ['cʰatlaɾɪ] 'cellar', *verjandi* ['vɛrjanɪ] 'defendant', *heimildar* ['hei:mɪlɪtaɾ] 'source-GEN'

## Quadisyllables

*kjallaranum* ['cʰatlaɾanɪm] 'the cellar-DAT', *heimildinni* ['hei:mɪlɪtɪnɪ] 'the permission-GEN'

Since word stress is initial, the main stress in these forms falls on the first syllable, as shown, but in polysyllables, there is a rhythmically motivated secondary stress on odd numbered syllables. At first glance it might seem that a limited number of vowel colours occur in the non-initial syllables, and in fact a morphophonemic generalization to the effect that the only vowels which can occur in inflectional and derivational endings are /ɪ/, /a/, and /ʏ/ comes close to being true. As we saw in sections 1.4 and 2.10, this restriction in the number of oppositions in ending syllables derives from the fact that Old West Nordic was diasystemic, allowing only [ɪ], [a], and [ʊ] (later [ɤ]) in unstressed syllables. Thus it might look as if the restriction in the number of vowel colours is phonologically principled and related to stress, and that we still have a diasystem of the sort that prevailed in Old Icelandic, with only the three colours in unstressed syllables being changed.

However, as already shown in section 2.10, loanwords and other recent additions to the Icelandic vocabulary tell us that this is not the case, and that the absence of vowels other than /ɪ/, /a/, and /ʏ/ in non-initial syllables is an accidental gap. Words like *strætó* ['strai:tou] 'bus' *strúktúr* ['struktʏr], and *nælon* ['nai:lɔn] 'nylon' clearly show that other vowels can occur without limit in non-initial, unstressed, syllables. In this sense there is then no difference between types of syllables regarding the selection of a vocalism.

There is thus no reason to assume that Modern Icelandic has a diasystem with different choices of vowels in stressed and unstressed syllables. This is fundamentally different from the situation in Old Icelandic. And, we shall see in the next chapter, Modern Faroese has two types of syllable, which may be called full and restricted syllables, the latter subject to strict restrictions as regards vocalic colour. And as mentioned in section 4.1.1 and further discussed in Chapter 8, other signs of diasystemic structure can be seen in Icelandic in the relation between vowels in the long and short environments.

## FAROESE VOWELS AND DIPHTHONGS

### 5.1 AN OVERVIEW

#### 5.1.1 *The inventory of vowels*

As a result of the quantity shift, Modern Faroese has a length rule, reminiscent of the Icelandic rule. In traditional accounts (e.g. Lockwood 1977: 8–9; Thráinsson et al. 2004: 30 ff.) ‘long’ and ‘short’ vocalic segments are shown to alternate so that long variants occur in open syllables, but short ones in closed syllables, that is before tautosyllabic consonants. Examples illustrating such relations between ‘long’ and ‘short’ vocalic segments in MF are given in (5.1), mostly representing the Tórshavn variety. The vowels are here classified, on the bases of the long variants, as monophthongs or diphthongs, although there are quality differences between the long and the short variants, in particular the short correspondents of the diphthongs are often monophthongal, as can be seen:

#### (5.1) Monophthongs

/i/ <i>linur</i> [li:nʊɪ] ‘soft’	<i>lint</i> [lɪnt] ‘soft-N’
/e/ <i>frekur</i> [fɛ:( <sup>h</sup> )kʊɪ]/[fɛɛ:( <sup>h</sup> )kʊɪ] ‘greedy’	<i>frekt</i> [frɛ <sup>h</sup> kt] ‘greedy-N’
/y/ <i>mytisk</i> [my:tɪsk] ‘mythological’	<i>mystisk</i> [mɪstɪsk] ‘mysterious’
/ø/ <i>høgur</i> [hø:vʊɪ]/[høævʊɪ] ‘high-M’	<i>høgt</i> [høkt] ‘high-N’
/u/ <i>gulur</i> [ku:lʊɪ] ‘yellow’	<i>gult</i> [kʊlt] ‘yellow-N’
/o/ <i>tola</i> [t <sup>h</sup> o:la]/[t <sup>h</sup> oɔ:la] ‘to endure’	<i>toldi</i> [t <sup>h</sup> ɔldɪ] ‘endured’
/a/ <i>Kanada</i> [k <sup>h</sup> a:nata] ‘Canada’	<i>land</i> [lant] ‘land’

#### Diphthongs

/øi/ <i>hvítur</i> [kfoi:tʊɪ] ‘white-M’	<i>hvítt</i> [kfoi <sup>h</sup> t:] ‘white-N’
/ei/ <i>deyður</i> [tei:jʊɪ] ‘dead-M’	<i>deytt</i> [tɛ <sup>h</sup> t:] ‘dead-N’
/ai/ <i>feitur</i> [fai:tʊɪ]/[fɔi:tʊɪ] ‘fat-M’	<i>feitt</i> [fai <sup>h</sup> t:]/[fɔi <sup>h</sup> t:] ‘fat-M’
/ɔi/ <i>gloyma</i> [klɔi:ma] ‘to forget’	<i>gloymdi</i> [klɔimɪ] ‘forgot’
/ɛa/ <i>spakur</i> [spɛa:( <sup>h</sup> )kʊɪ] ‘calm-M’	<i>spakt</i> [spakt] ‘calm-N’
/ɔa/ <i>vátur</i> [vɔa:tʊɪ]/[vɔ:tʊɪ] ‘wet-M’	<i>vátt</i> [vɔ <sup>h</sup> t:] ‘wet-N’
/ʊu/ <i>fúlur</i> [fʊu:lʊɪ]/[fɪu:lʊɪ] ‘foul-M’	<i>fúlt</i> [fʏlt] ‘foul-M’
/ɔu/ <i>tómur</i> [t <sup>h</sup> ɔu:mʊɪ]/[t <sup>h</sup> œu:mʊɪ] ‘empty-M’	<i>tómt</i> [t <sup>h</sup> œmɪt]/[t <sup>h</sup> ɔmɪt] ‘empty-N’

It should be noted at this stage that there is quite a bit of variation and there are dialect differences in Faroese, some of which affect the number of possible vowel

oppositions. Thus there is a (mainly northern) variant where the diphthong in *feitur* 'fat' is /ɔi/ instead of /ai/, giving [fɔi:tʊɹ] as a long form and [fɔi<sup>h</sup>t:] as a short one in *feitt* 'fat-NEUT', corresponding to [fai:tʊɹ] – [fai<sup>h</sup>t:] in other areas. But although this rounding would seem to abolish /ai/ as a part of the system, we will see below that new forms containing both long and short /ai/ have been adopted in borrowings like *kai* [k<sup>h</sup>ai:] 'quay' (from Danish) and names like *Beinta* [paiŋta] 'a woman's name' (the name of the alleged model for the character *Barbara* in the famous novel). As mentioned in section 2.6, the short diphthongs may be monophthongized in specific word forms like the past tense *koyrði* 'drove' [k<sup>h</sup>ɔɹɹɹ], *gloymti* [klɔmtɹ] 'forgot', and in northern Streymoy, words like *týskt* 'German-ADJ' may be pronounced with a monophthong: [t<sup>h</sup>ʊkst] instead of [tʉkst], which would be according to the paradigm given in (5.1).

Another such case of dialect variation affecting systemic relations is that, instead of the diphthong [ɔɹ], the long vowel in *vátur* 'wet' is pronounced as a monophthong: [vɔ:tʊɹ] (with a low back vowel) or [va:tʊɹ] (with a central or front vowel, see e.g. Staksberg 1991: 34–5). These monophthongal variants belong to the northern and eastern parts of the islands, and it seems that the northernmost areas tend to have the front variant [a]. It is interesting to note here, that the short correspondent in *vátt* 'wet-NEUT' seems to be invariably rounded, that is [vɔ<sup>h</sup>t:] and not \*[vɔ<sup>h</sup>t:] or \*[va<sup>h</sup>t:], even in the varieties which have an unrounded long variant in *vátur*. This can either be interpreted as due to dialect mixture, so that the short syllable forms have been 'borrowed' from the rounded varieties, or it can be taken to show that the delabialization and monophthongization of the long vowel is secondary in the northern dialects (Eivind Weyhe p.c.).

Still another variant feature in vocalic qualities to be noted at this stage is that the long diphthong in *tómur* [t<sup>h</sup>ɔu:mʊɹ] 'empty-M' has a front rounded or unrounded pronunciation ([œu] or [ɛu], or perhaps [əu] with a centralized first part) in northern and western varieties.<sup>1</sup> This correlates with a difference in the short counterpart, so that in some southern parts the short variant is back, giving the pronunciation [t<sup>h</sup>ɔmʉ] for *tómt* 'empty-N' instead of the more common [t<sup>h</sup>æmʉ]. Related to the variation in the diphthong in *tómur* 'empty' with a back rounded or front and/or unrounded first constituent, is the variation which seems to be allowed in the pronunciation of the diphthong in *fúlur* 'foul'. The variant given in most handbooks is [ʉu], but according to my observations, the diphthong may well have an unrounded first constituent, giving [ɹu].

These dialect differences will be further discussed in section 5.4 below.

<sup>1</sup> In such varieties, a minimal contrast may be created between forms like *nón* [nəu:n] '3 o'clock in the afternoon' with a delabialized first constituent of the diphthong and *nøvn* [nœu:n] 'names', the plural of *navn* [nau:n] 'name'. Thus the /a:/ – /œ:/ alternation stemming from u-umlaut signifies the distinction between plural and singular forms. That is to say, the u-umlaut alternation, which is also found in paradigms like *barn* [patn] 'child', *børn* [pœtn] 'children' gives a rounded [œ] followed by a semivocalic [u] forming a diphthong or vocalic sequence, which then may contrast with the delabialized correspondent of historical *ó* (Eivind Weyhe p.c.).

## 5.1.2 The 'long' and 'short' systems

Looking at (5.1) it is even more obvious than for MI that the mapping between the vowel in the first and the second column is not simply a length relation. This is particularly evident in the case of the diphthongs, which show a fairly complex pattern of correspondence. The diphthongs /ɛi/, /ɔu/, /ʊu/, /ɔa/, and /ɛa/ have monophthongal short correspondents, which are quite different from the long correspondents, although obviously phonologically related. Thus [ʊu:] ([ɪu]) in *fúlur* 'foul' has a front lax rounded /ʊ/ as a short correspondent in *fúlt* 'foul-NEUT'; long [ɛi:] in *deyður* [tei:jʊɪ] 'dead-MASC' corresponds to [ɛ] in *deytt* [teʰt:] 'dead-NEUT'; [ɔa:] in *vátur* [vɔa:(ʰ)tʊɪ] 'wet-MASC' has as a short correspondent [ɔ] in *vátt* [vɔʰt:] 'wet-NEUT'; [ɛa:] in *spakur* [spɛa:(ʰ)kʊɪ] 'calm-MASC' corresponds to [a] in *spakt* [spaʰkt] 'calm-NEUT'; and [ɔu:] in *tómur* [tʰɔu:mʊɪ] 'empty-MASC' corresponds to [ɔ] or [œ] in *tómt* [tɔmt] / [tʰœmt] 'empty-NEUT'. And at least for some speakers one more such paradigm is to be found in examples like *koyra* [kɔi:ɪa] 'to drive' – *koyrði* [kʰɔɪtɪ] 'drove' – *koyrt* [kʰɔɪt] 'driven'.

The phonological correspondence between the long and the short vowels raises interesting questions. In some cases the correspondence is not what might be expected from the phonological (or historical) point of view. Thus, in the Tórshavn variant, the [ɔu:] in *tómur* [tʰɔu:mʊɪ] 'empty' has low front rounded /œ/ as a short correspondent in *tómt* [tʰœmt] 'empty-N', whereas in a limited area (south and east), the short correspondent is a back /ɔ/, which is the expected short quality, given the back rounded long variant. The most common short alternant, [œ], corresponds better phonologically to the long variant in other less common (or socially central) varieties, which have front first constituents in *tómur*: [tʰœu:mʊɪ] or [tʰeu:mʊɪ]. Thus the dialect distribution is somewhat skewed in that the isogloss for the front or back variant of the long vowel is not quite the same as that for the front or back variant of the short vowel.

Although the differences between open and closed syllable pairs is more evident in the case of the diphthongs, there is also in most cases a clear difference in the quality between the long and the short variant of the monophthongs. In some cases the short variants have a lax articulation compared to the long ones, and in other cases the long variants are diphthongized (cf. e.g. Rischel 1964). Thus in general the quality differences and the lack of isomorphy between the long and short diphthongs show that the vocalism of Faroese has developed even clearer signs than Icelandic of a polysystemic structure, and a simple correlation of length is insufficient to account for the correlation.

Given the richness of the diphthongal system, there is a conspicuous absence in the paradigm in (5.1) caused by the fact that there is no [au] in the traditional vocabulary. Historically this is due to the delabialization and raising of original /au/ in OWN *dauðr* (MI *dauður*) 'dead' and *braut* 'broke', giving MF *deyjur* [tei:jʊɪ] and *breyt* [prei:t], and the fact that diphthongization of historical *á* in *bátur* 'boat' gave [ɔa] instead of [au] as it did in Icelandic. But this does not mean that there is no [au] diphthong in Modern Faroese, only that due to historical circumstances all instances

of this natural diphthong are historically secondary. It occurs in forms like *havn* [hau:n] 'harbour' and *javn* [jau:n] 'even', where a labial fricative has become a glide (instead of stop as in Icelandic *höfn* [hœpɹ] 'harbour', *jafn* [japɹ] 'even', cf. section 2.9). And it also occurs in loans like *klaustrofobi* 'claustrophobia' and *Australia* 'Australia'. There may be some doubt as to whether the diphthong [au] can have both a long and a short variant in MF. Thus, although the *st*-cluster in forms like *klaustrofobi* [k<sup>h</sup>lau(:)strəfɔ'pi:] and *Australia* [au'stralja] is a 'short' environment, it is not clear the diphthongs are in fact structurally short or that the syllable is closed. As loans, these words have non-initial main stress, which means that lengthening due to accentuation is less marked in the initial syllables. This means that in *klaustrofobi* and *Australia* the [au] is likely to have a shorter duration than in fully stressed forms like *navn* and *javn*. However, although they do not take the main word stress, they are full (rather than restricted) syllables, and in the cases that I have observed of *Australia* the syllabic boundary seems to be placed after the vowel, which means that the stressed syllable starts with an initial /st/-cluster: [au.'stralja]. According to traditional interpretation, the vowels of these syllables in words with non-initial stress are 'half long' (another example is *japanskur* 'Japanese' [ja.'pa:nskʊɹ], see the discussion of this example in section 9.2, p. 157.). And in the case of *klaustrofobi* a secondary stress is normal for the first syllable, which has the effect of lengthening the vowel: [k<sup>h</sup>lau:stɹəfɔ'pi:].<sup>2</sup>

But although clear cut examples are hard to find, the possibility seems to be open for [au] to appear in closed syllables. Thus Petersen (1996: 13) notes that there is a short /au/ in *javn* 'even-NEUT' [jaʊnt]. It is to be noted that in this example the nasal is devoiced, which suggest the same sort of phonotactics as in *fint* [fɔiɲt] 'fine-NEUT' and *tómt* [t<sup>h</sup>œmt] 'empty-NEUT', namely devoicing of the coda before the following stop. The devoicing in coda position indicates a close contact between the coda and the following consonant and a closed syllable. The environments in *fint* and *javn* with voiceless sonorants before stops are genuine 'short' environments in the inherited vocabulary. However, some informants seem to prefer a long vowel and a voiced nasal: [jau:nt] for the latter form. This (both the long vocalism and the voicing of the nasal) can be taken as an instance of analogical levelling, so that the stem of masculine and feminine forms, for example *javnur* [jau:nʊɹ] 'even-MASC' or *jauvn* [jau:n] 'even-FEM', is copied into the neuter, resulting in overlength (cf. section 9.2.3). The analogical form [jau:nt] should then be seen as having an open syllable and two extrasyllabic consonants, something like /jau.nt/ or /jau.n.t/. Interestingly, a form with a short vowel and a voiced nasal, \*[jaun.t], seems to be excluded. This shows that if the syllable is closed, that is to say there is close contact between the coda and the following onset, devoicing is obligatory (cf. section 9.4.3). And we can say, conversely, that no devoicing takes place between

<sup>2</sup> A case in point might be a recent loan from English, like *sound*, but then the question is how well it is adapted. As we shall see below, the other u-diphthongs /ɔu/ and /uu/ have monophthongal short correspondents, so if there were to be short variant of /au/, this would be the only u-diphthong occurring in the short environments in Modern Faroese.



two extrasyllabic onsets as in /jau.n.t/. (We shall return to these problems in section 9.2.3.)

All in all, it is doubtful whether the patterns illustrated in (5.1) are to be seen as truly phonologically motivated alternations, defining the long–short pairs in some way as different realizations of the same phonological units ('underlying' segments or phonemes). The alternative hypothesis would be that the patterns are morphophonemic in some sense and on a par with umlaut and ablaut patterns that are common in the language. Thus a paradigm like that for the adjective *gamal* 'old' has both a 'long–short' alternation between [ɛa:] and [a] and furthermore [oɔ:] and [ɔ], the reflexes of u-umlaut:

- (5.2) *gamal* [kɛa:mal] 'old-MASC.NOM.SG'  
*gamlan* [kamlan] 'old-MASC.ACC.SG'  
*gomlum* [kɔmlun] 'old-DAT.PL'  
*gomul* [kɔɔ:mul] 'old-FEM.NOM.SG'

Similarly, a pattern like the one for *stórrur* 'big' (an irregular adjective) looks very much like a lexicalized inflectional pattern:

- (5.3) *stórrur* [stɔu:ɪʊɪ]/[stœu:ɪʊɪ]/[stœuɪʊɪ]<sup>3</sup> 'big'  
*stórt* [stœɪt] 'big-NEUT'  
*størri* [stœɪɪ] 'bigger'  
*størstur* [stœɪstɔr] 'biggest'

In this interpretation, the vocalic correlation [ɔu:]/[œu:]/[œuɪʊɪ] – [æ] is thus part of the pattern of inflections, reminiscent of the patterns of strong verbs like *strúka* [strœu:ka] 'to stroke, dash about' – *stýkur* [strœi:kʊɪ] 'id. 2.3.PRES.SG' – *streyk* [strei:k] 'id. PAST.SG' – *struku* [stru:kʊ] 'id. PAST.PL' – *strokið* [stroɔ:ʃɪ] 'id. PAST.PART', making use of inherited ablaut patterns in their Modern Faroese garb.

So the most sensible conclusion would seem to be that the patterns in (5.1) are simply morphophonemic paradigms (cf. Chapter 12) of alternation between vowels which are historically related (but from the point of view of synchronic phonology independent), that is pairs such as /ɛa/ – /a/; /ɔa/ – /ɔ/; etc. But although the individual members of these pairs are not connected through a common phonologically defined 'source' in the input by a simple relation of length (tenseness or whatever), their different phonotactic properties cause them to be in complementary distribution. Thus the 'long' variants only appear in open syllables, and the 'short' variants are limited to closed syllables. The problem of analysing this polysystemic structure and the relation between the open syllable and the closed syllable systems of Icelandic and Faroese will be the main theme of Chapter 8.

An interesting comparison can be made between phonological behaviour in different inflectional and word formational relations. Most of the examples in (5.1) involve an alternation between masculine vs neuter forms of adjectives, such as *spakur* [spɛa:(<sup>h</sup>)kʊɪ] 'calm-M' vs *spakt* [spa(<sup>h</sup>)kt] 'calm-N', *tómur* [t<sup>h</sup>ɔu:mʊɪ]

<sup>3</sup> These variants represent different varieties or dialects.

‘empty-MASC’ vs *tómt* [t<sup>h</sup>æmt] ‘empty-N’, etc., where the addition of a /t/ representing the neuter creates short environments in that gender. And in (5.2) we saw an alternation between a nominative form like *gamal* [kɛa:mal] ‘old-MASC.NOM.SG’ and an accusative *gamlan* [kamlan] ‘old-MASC.ACC.SG’, where an old historical change involving a deletion of the second vowel of a disyllabic stem /gamal-/ before a vowel in the ending gives the allomorph /gaml-/ with a closed syllable in the accusative. But not all morphological correspondences affect the syllabic structure in the same way. The handbooks give genitival forms like *báts*, where an /s/ is added to the stem of *bátur* ‘boat’, although, as pointed out by Thráinsson et al. (2004: 248 ff.) the genitive as a morphosyntactic category is somewhat marginal in Faroese. It is not always easy to elicit these genitival forms from informants as parts of natural speech, but they still occur, sometimes in set phrases like *til báts* ‘to the boat’ and *ganga til báts* ‘go to the boat, to board the boat’, etc. The interesting thing is that, as a rule, these forms have a long vowel, giving [pɔa:ts] (or dialectally [pɑ:ts]), instead of \*[pɔts], which means that there is no ‘shortening’ before /ts/ in these cases. This means that we are dealing with analogical levelling and overlength of the type discussed in section 9.2.3 below, an open syllable and extrasyllabic consonants, that is something like /pɔa:.t.s/. The same goes for genitival compounds like *bátsmaður* [pɔa:tsmæʊʊ] ‘boatman’ and *bátsfiskur* [pɔa:tsfisku] ‘boatfish, a share of fish belonging to the boat’. Only exceptionally, as in the case of *bátssegl* [pɔtsɛkl] ‘boat-sail’ do we get the short correspondent [ɔ]. Similarly, the word *dalsbotnur* [talspɔ<sup>h</sup>tnu] ‘end of a valley’ has a short /a/ corresponding to the /ɛa/ in *dalur* [tɛa:lɔ] ‘valley’. But most of the time there is no shortening, as in genitives and genitival compounds involving stems like *stól(ur)* [stou:lɔ] ‘chair’, *dómur* [tɔu:mɔ] ‘judgement’, and *sól* [sɔu:l] ‘sun’. To the extent that the genitival forms exist, they seem to have the long and diphthongal vocalism: [stou:ls], [tɔu:ms], etc, in spite of the fact that clusters like /ls/ and /ms/ define ‘short’ environments in forms like *hálsur* [hɔlsu] ‘neck’ and *ymsastaðni* [ɪmsastɛa:nɪ] ‘in many places’. And the same goes for many compounds like *sóldagur* [sɔu(:)lteʊu] ‘sunny day’, *sólber* [sɔu(:)lpe:ɪ] ‘black-currant (literally sun berry)’, *dómsgerð* [tɔu(:)msfɛ:ɪ] ‘act of judgement’, and *dómpróstur* [tɔu(:)mprɔustu]/[tɔu(:)mprɛstu] ‘cathedral priest’, *dómkirkja* [tɔu(:)mfɪɪtʃa] ‘cathedral’. Exceptions from this seem to be limited to word-formationally quite untransparent forms such as *sólja* ‘buttercup’ (cf. Icelandic *sóleyja* ‘buttercup’), which is pronounced [sɛlja]. Thus, in spite of the fact that the consonantism following the vowels in words like *sólber* or *dómsgerð* is a shortening environment in that the first member of the cluster should form a coda in the preceding syllable, the ‘long’ variants are used.

In comparable Icelandic forms like MI *stólbak* [stoulpak] ‘back of a chair’, *sólber* [soulpɛɪ] ‘black-currant’ and *dómsgerð* [toumsɛɐθ] ‘act of judgement’, we see that there is regular ‘shortening’ of the vowel, so that these forms have short [ɔu]. It is possible (as indicated in the transcription in the preceding paragraph) that there is a tendency for the Faroese diphthongs to be shorter in closed syllables in words like *sóldagur* ‘sunny day’ than in open syllables like in *stólur* ‘chair-NOM.SG’, but the [ɔu]/[œu] – [æ] alternation in Faroese is clearly fossilized.

The upshot is that the diphthongs /ɔu/, /uu/, /ei/, /ɛa/, and /ɔa/ should be seen as forming morphophonemic paradigms with /œ/, /ɤ/, /ɛ/, /a/, and /ɔ/. And to the extent that there is an alternation between /ɔi/ and /ɔ/ in *koyra* [k<sup>h</sup>ɔɪɹa] ‘to drive’ and *koyrdi* [kɔɹɫɪ] ‘drove’, this correspondence can be added to the list of vowel paradigms.

## 5.2 THE PHONETIC AND PHONOLOGICAL ANALYSIS OF THE FAROESE MONOPHTHONGS AND DIPHTHONGS

It is clear from the overview above that a comprehensive analysis of the Faroese vowel system is quite a challenge (see Bjerrum 1964 and Skårup 1964 for a ‘glossematic’ analysis of Faroese phonology). The observations submitted here must accordingly be seen as preliminaries, to be followed by further work, and we will have to leave some issues unresolved. But it will be shown that in spite of the complexities it is possible to analyse the essence of the subsystems of monophthongs and diphthongs in a fairly straightforward way. Thus, the same type of alphabet can be used to represent the Faroese vowels as for the description of Icelandic in Chapter 4, that is the phonological primes A, I, and U, fully interpretable at all levels of structure in terms of the properties defined in section 3.2.2. Although more numerous, the Faroese diphthongs have a similar type of structure to the Icelandic ones—they are melodically complex, with independently occurring units as first constituents and glides or informationally simple forms as second components. Faroese has three types of falling diphthongs: in addition to i- and u-diphthongs, which occur in Icelandic, Faroese utilizes the A-element to create a set of /a/-diphthongs.

The most important difference between Icelandic and Faroese in terms of their vocalic oppositions is probably that the latter clearly has a polysystemic structure based not only on open vs closed syllables, but also on syllable types. Apart from allowing for different possibilities in the long and short environments, it makes a distinction between two types of syllable, full and reduced or restricted. This raises the problem, in addition to that of the relation between open and closed syllables, of how to account for the vocalic possibilities in the weak or restricted type of syllable, and their relation to the richer systems in the full syllables.

### 5.2.1 *The vowel qualities*

Starting with the monophthongs in the long environments, the set of Faroese vowel qualities can be represented using IPA symbols as in (5.4) (cf. also Rischel 1964; Cathey 1997):

#### (5.4) Monophthongs:

	Front		Back
	Unround	Round	Round
High	[i:]	[y:]	[u:]
Mid	[e:] ([eɛ:])	[ø:] ([øœ:])	[o:] ([oɔ:])
Low		[a:]	

In terms of typology, this system fits well into the North-West-European Sprachbund, characterized by the presence of front rounded vowels, and it looks in fact remarkably like the vowel system posited for twelfth-century Icelandic described in section 1.4 (see, e.g., Benediktsson 1959; 1972). At the same time the system differs significantly from the Modern Icelandic one shown in section 4.1. The Icelandic system has three heights in the front vowels: /i/, /ɪ/, /e/, whereas in Faroese there are only two, and although both languages have front rounded vowels, their respective position in the system is different since, as we have seen, there is no fully high front rounded vowel in Icelandic, and the mid front rounded vowel [æ:] is lower in Icelandic than the Faroese [ø:]. As in Icelandic, there is a tendency to diphthongize or lower the long mid vowels, giving, in addition to the monophthongal qualities listed in most sources, something like *drepa* [t.rɛɛ.pa] ([t.rɛə.pa]) beside [t.rɛ.pa] 'to kill', *loka* [lɔɔ:ka] ([lɔə:ka]) beside [lɔ:ka] 'close', *døma* [tøæ:ma] ([tøə:ma]) beside [tø:ma] 'to judge' (Petersen 1996: 8). This is reminiscent of the tendency to diphthongize the low mid vowels of Icelandic, and although the Icelandic mid vowels are structurally lower than the Faroese ones, the outcome may sound similar (cf. the Icelandic examples *drepa* [t.rɛɛ.pa] 'to kill', *loka* [lɔɔ:ka] 'to close' etc. in section 4.1). This lowering or diphthongizing tendency seems to vary somewhat according to the vowel, and according to the following consonant. Thus before /r/, as in *gera* 'to do', the front mid vowel is often lower than, for example, a verb like *seta* 'to put': [ʃɛɛ:ɹa] vs [se:(<sup>h</sup>)ta].

A simple comparison between Modern Faroese and Old West Nordic might seem to suggest that the Faroese vowel system is more conservative than the Icelandic one. Although this is partly true, since, for example, the old short vowels were not lowered in Faroese in the same way as in Icelandic, there are other developments which have disrupted the historical correspondence. Thus, the original front rounded [y] quality was abolished, since in *fylla* [fitla] 'to fill' and *fyri* [fi:ɹi] the short variant has been delabialized, and the old long *y* in *sýna* [sui:na] 'to show' has been diphthongized. The front rounded quality [y] has been reinstituted, however, in loans like *mytisk* 'mythical' and *mystisk* 'mystic'.

And similarly the long [a:] is not original, since the old monophthongal /a/ has become a diphthong [ɛa] in the long environments, although it remained as /a/ in short environments, such as *land* [lant] 'land'. This modern short /a/ also corresponds to a historical /æ/, in forms like *vænt* [vʌnt], the neuter of *vænur* [vɛa:nʊɹ] 'beautiful', which corresponds to OWN /æ/. But new long and short [a]-sounds have been supplied by loans like *Kanada* [k<sup>h</sup>a:nata] 'Canada' and *Atlantshav* [a<sup>h</sup>tlantshe:a:v] 'the Atlantic ocean'.

The qualities of the short monophthongal vowels of Faroese are shown in (5.5):

- (5.5)    [ɪ]        [ʏ]            [ʊ]  
           [ɛ]        [œ]            [ɔ]  
                   [a]

Although the correspondence is regular, the qualitative differences between the long and the short vowels are noticeable, as indicated by the phonetic symbols used.

Rischel (1964) gives a partial description of the acoustics of Faroese vowels, showing that there is a clear phonetic difference in quality between the pairs of long and short vowels. The short vowels are more centralized than the long ones. Rischel also notes the above mentioned tendency toward glide formation in the non-low long vowels, peripheral in the case of the high ones, and centralizing in the case of the mid vowels.

Similar results regarding acoustic measurements of monophthongs are presented in Petersen (2000: 40), as shown in (5.6):

(5.6) Long vowels			Short vowels		
	F1	F2		F1	F2
i:	300	2000	ɪ	420	1600
e:	580	1580	ɛ	560	1230
ø:	550	840	œ	520	1000
			ʏ	350	1200
u:	260	480	ʊ	350	650
o:	420	460	ɔ	520	540
			a	600	630

An element analysis of the vowel qualities corresponding to the long vowels is given in (5.7). And to the extent that the correspondence between long and short vowels is a phonetic one, tense vs lax or long and short, the short system in (5.6) can be accounted for with the same element representation, although the representation of the prosodic characteristics remains to be addressed (see section 10.1.4 for discussion).

(5.7)	{I} /i:/, /ɪ/	{I, U} /y:/, /ʏ/	{U} /u:/, /ʊ/
	{I, A} /e:/, /ɛ/	{I, A, U} /ø:/, /œ/	{U, A} /o/, /ɔ/
		{A} /a:/, /a/	

### 5.2.2 Analysing the Faroese diphthongs

As in Icelandic, the inventory of Faroese diphthongs is constrained by the number of options for second constituents; there are only three possibilities in the latter case. Thus, as already mentioned, in addition to a set of i-diphthongs and u-diphthongs, Faroese allows diphthongs with /a/ as a second constituent.

To start with the /i/-diphthongs, and ignoring dialect differences for the moment, we can see them as combinations of the monophthongal qualities: /u/, /e/, /a/ and /o/ followed by /i/, as shown in (5.8):

(5.8)	/i/-diphthongs:
	{U}+{I}      /ʊi/ <i>hvítur</i> 'white'
	{I, A}+{I}    /ei/ <i>deyður</i> 'dead',
	{A}+{I}      /ai/ <i>feitur</i> 'fat'
	{U, A}+{I}   /ɔi/ <i>gloyma</i> 'to forget'

There are only two /u/-diphthongs listed in most handbooks, namely /ɔu/ as in *tómur* ‘empty’ and /ʊu/ as in *fúlur* ‘foul’. But we saw in Section 5.1 that although the historical /au/ in *dauður* ‘dead’ has become /ei/, the system has acquired a new [au]-diphthong in loanwords like *august* ‘August’ and *Australia* ‘Australia’, and [au] has also developed out of the combination of /a/ and /v/ (originally a fricative) in forms like *Tórshavn* [tou(:)ʂhaun] ‘the name of the captal’ and *navn* [nau:n] ‘name’. Adding this /au/ to the inventory gives us three u-diphthongs. And as shown in (5.9) we can assume that these /u/-diphthongs are constructed by combining the independently occurring vowel colours /i/, /o/, and /a/ with the /u/-glide.

(5.9) /u/-diphthongs:

{I}+{U}	/iu/ ([ʊu]) <i>fúlur</i> ‘foul’
{U, A}+{U}	/ɔu/ <i>tómur</i> ‘empty’ (dialectal: [æʊ], [ɛʊ])
{A}+{U}	/au/ <i>august</i> ‘August’, <i>navn</i> ‘name’

This analysis of the u-diphthongs calls for some minor comments, since the phonetic characterization is not always directly predicted by the quality of the corresponding monophthongs. It is easy to analyse the rounding of the first component of /ʊu/ as a phonetic realization in the rounded surroundings before [u]. And indeed there seems to be some variation in the pronunciation of this sound, as it can have a less rounded or more front first part: [ʏʊ] or even [ɪʊ] (i.e. with I phonetically stronger and U weaker). According to Eivind Weyhe (p.c) this is a relatively recent innovation. Similarly, we have noted variation in the realization of /ɔu/, so that in some dialects the first component is front and even unrounded (cf. below). Both /ʊu/ and /ɔu/ are only allowed to occur in long environments, as we have seen, whereas marginal examples have been noted of /au/ in short environments, for example in cases such as *jávn* ‘even-NEUT’ mentioned above.

Faroese has two /a/-diphthongs, a combination of A as a second constituent with /e/ as a first constituent in *dalur* [tɛa:lʊɪ] ‘valley’, and with /o/ as a first constituent in *kátur* [k<sup>h</sup>ɔa:(<sup>h</sup>)tʊɪ] ‘happy’.<sup>4</sup> These diphthongs can be represented in the way shown in (5.10):

(5.10)	{U, A}+{A}	/ɔa/ in <i>kátur</i> ‘happy’
	{I, A}+{A}	/ɛa/ in <i>dalur</i> ‘glad’

But as we saw in Chapter 5.1, the a-diphthongs only occur in long environments.

We have seen that the number of short diphthongs is limited, the only diphthongs allowed in short environments being /i/-diphthongs: [ai], as in *feitt*, [ɔi] as in *hvítt* ‘white-N’ and [ɔi], as in *gloymdi* (with dialect variation). As regards the absence of short correspondents for the /u/-diphthongs (except for /au/), it might be suggested that there is some special constraint against the /a/ or /u/ functioning as glides in short environments. Another plausible interpretation might be that this has to do with constraints regarding a phonetic difference between the first and the second

<sup>4</sup> The former is only to be found in the southern dialects.

constituent in a short diphthong. It would seem that some minimal contrast is needed between the two components, so that for example [ɔ] and [u] are non-optimal because they are too similar, both being rounded and back, and the distance between front low or mid [ɛ] and [a] might be too small for [ɛa] to function as a short diphthong, and *mutatis mutandis* for [ɔ] and [ɑ]. This interpretation would also include the /ɛ/ vocalism in *deytt* [tɛ<sup>h</sup>t:] ‘dead’, corresponding to *deyður* [teijʊɹ]; the distance between [ɛ] and [i] being too small to be used in a short diphthong. These issues will be discussed further in section 8.2.1.

Like Icelandic, Faroese has both pure and impure diphthongs, since in several instances the first constituent has a mixed quality, as shown in (5.11b):

- (5.11) a. Pure diphthongs
- |         |      |                        |
|---------|------|------------------------|
| {U}+{I} | /ɔi/ | <i>hvítur</i> ‘white’  |
| {A}+{I} | /ai/ | <i>feitur</i> ‘fat’    |
| {I}+{U} | /ʊu/ | <i>fúlur</i> ‘foul’    |
| {A}+{U} | /au/ | <i>august</i> ‘August’ |
- b. Impure diphthongs
- |            |      |                           |
|------------|------|---------------------------|
| {I, A}+{I} | /ɛi/ | <i>deyður</i> ‘dead’      |
| {U, A}+{I} | /ɔi/ | <i>gloyma</i> ‘to forget’ |
| {U, A}+{U} | /ɔu/ | <i>tómur</i> ‘empty’      |
| {U, A}+{A} | /ɔa/ | in <i>kátur</i> ‘happy’   |
| {I, A}+{A} | /ɛa/ | in <i>dalur</i> ‘glad’    |

It is clear from the sketch above that the vocalic system of Faroese cannot be seen as one and the same in all environments. The structure is diasystemic. Apart from the special status of the reduced syllables, which we will have a closer look at in section 5.5, the long and short environments clearly have different units. Many of the oppositions allowed in long environments, basically open syllables, are neutralized in short environments, as shown in (5.12), and it is not always clear how the relationship between these systems should be analysed.

- (5.12) Open syllables:
- | Monophthongs |      |      | Diphthongs: |       |       |
|--------------|------|------|-------------|-------|-------|
| /i:/         | /y:/ | /u:/ | /ɛi:/       | /ʊu:/ | /ɛa:/ |
| /e:/         | /ø:/ | /o:/ | /ai:/       | /au:/ |       |
|              | /a:/ |      | /ɔi:/       | /ɔu:/ | /ɔa:/ |
|              |      |      | /ɔi:/       |       |       |
- Closed syllables:
- | Monophthongs: |     |     | Diphthongs: |      |      |
|---------------|-----|-----|-------------|------|------|
| /ɪ/           | /ʏ/ | /ʊ/ | /ɔi/        | /ai/ | /ɔi/ |
| /ɛ/           | /œ/ | /ɔ/ |             |      |      |
|               | /a/ |     |             |      |      |

The relationship between the subsystems will be discussed further in section 8.2.1.

## 5.3 MORE ON DIALECT VARIATION AND VOWEL SYSTEMS

We saw in section 5.1 above that there are some dialect differences which affect the type and realization of oppositions in the vocalic systems. One of the major dialect differences (at least in popular discussion of linguistic variation in the Faeroes) is that between rounded and unrounded pronunciations of the diphthong represented by *ei* in the spelling, for example in words like *steinur* ‘stone’ and *bein* ‘bone’. North of Kaldbaksfjørður on Streymoy, these forms are pronounced [stɔi:nʊɹ] and [pɔi:n], whereas in the southern areas, the pronunciation is [stai:nʊɹ] and [pai:n].<sup>5</sup> This means that in the northern varieties there has been a merger in the traditional vocabulary of /ai/ with the /ɔi/ in *gloyma* [klɔi:ma] ‘to forget’ (etymologically [øɹ]). But as noted in section 5.1, new forms with /ai/ have been acquired in loans and new forms like *kai* [k<sup>h</sup>ai:] ‘quay’ (from Danish) and *Beinta* [paiŋta] ‘a woman’s name’. Thus we have one more instance of a somewhat ‘unnatural’ accidental gap created by sound change—rounding of a historical /ai/—being filled by additions to the vocabulary.

Another rather prominent (and well known) dialect feature which was mentioned in section 5.1 involves the pronunciation of the long vowel spelled *á* in *bátur* ‘boat’ and *lán* ‘loan’, pronounced as diphthongal [ɔɑ:] in most places, as a monophthong. In the north-eastern part (the *Norðoyar*), this variant has a monophthongal pronunciation, something like *batur* [pa:tʊɹ] or [pa:tʊɹ] (cf. Staksberg 1991). (There are no records of a rounded monophthong, such as [pɔ:tʊɹ], which would reflect the reconstructed OWN quality.)

Given that all tokens of historical /á/ are monophthongs in these varieties, this should mean that the diphthongal system, in a place like Klaksvík, for example, is simpler than in most other areas, having only [ɛɑ:] as an /a/-diphthong. And in the variety of Fugloy, this inventory is further reduced by the absence of [ɛɑ:], so that there are no /a/-diphthongs. But further study is needed before such conclusions can be drawn regarding the number of oppositions. In any case it is likely that dialect mixture and influence from more commonly used varieties on the less used ones will distort the picture. Thus for some informants from Klaksvík, the verb *fáa* ‘to obtain’ has the rounded and at times clearly diphthongal form [fɔɑ:] (speakers K-9, K-19) or [fowa] (K-15), although others have a monophthongal back unrounded [ɑ:] (e.g. K-18), and it is likely that a more detailed investigation would reveal variation, which may in fact shed light on some fundamental questions in linguistic variation and development.

One further feature, which is reported as characterizing the speech of the very north-easternmost island of Fugloy, is the monophthongal pronunciation in long environments of the sound represented in the standardized spelling by *a* or *æ*, most commonly pronounced as [ɛɑ:]. According to traditional accounts of this variation,

<sup>5</sup> When asked about potential differences between dialects, this variant seems to be the one that is most frequently referred to by Faroese informants. This implies that the linguistic community is well aware of this variable, and it should accordingly be classified as a *marker* in the sense of Labov (2001: 196).



words like *fær* ‘gets’ and *far* ‘vessel’ are here pronounced [fɛ:ɪ], as opposed to the majority pronunciation [fɛa:ɪ]; and *maður* ‘man’, which in the majority variant has a diphthong: [mɛa:ʊɪ], in Fugloy has the pronunciation [mɛ:ʊɪɪ]. (See also Staksberg (1991: 33) on variant pronunciation in Kalsoy of vowels written *a* and *æ*, so that some older speakers make the [ɛ] part of the diphthong longer than in the majority variant.)

At the other end of the area geographically, a special feature of the dialect of Suðuroy is the monophthongal /e/ in words like *læra* [le:ɪa] ‘to learn’ and *fær* [fɛ:ɪ] ‘gets’ and *fer* [fɛ:ɪ] ‘goes’, which, as shown by the spelling, corresponds historically either to OWN mid high /e/ or mid low /æ/. Thus, as in Fugloy, there is merger between forms, and a lack of diphthongization. However, this does not affect the number of diphthongs in Suðuroyamál, since the etymological *a* has the diphthong [ɛa:] in the word *far* [fɛa:ɪ] ‘vessel’. The distinction between *fær* ‘gets’ and *fer* ‘goes’ on the one hand and *far* ‘vessel’ on the other reflects a historical raising of the old open /æ/, involving a merger with etymological /e/, whereas the old /a/ has developed in the same way as in the other areas.

The third major dialect feature which may be relevant to the phonological analysis of the vowel system is the variation in the pronunciation of /ó/, mentioned above, in words like *stórur* ‘big’, having a front first constituent: [œ] or even unrounded [ɛ] or [ə] mainly in some northern parts—including the northern part of Streymoy and the island of Vágar—but a rounded [ɔu] in other parts. As we have seen, the most common short vocalism, for example in *stórt* ‘big-NEUT’, is a front [œ] corresponding better with the front variant, the pronunciation [stɔɹ̥t] having a more limited distribution. This shows a sort of mixture of dialects, in that certain varieties, can have back long variants but front short ones.

A parallel delabialization of the first constituent in the high diphthong represented by *ú* in the spelling, in for example *hús* [hʉu:s] ‘house’ has, to my knowledge, not been reported, although it seems that the labialization of the first constituent is not always very clear, giving something like [iu].<sup>6</sup>

One more dialect feature relevant to the analysis of the phonological systems is the monophthongization of short [ɔi] before labials, [m, f] in northern Streymoy and Esturoy: *gloymdi* [klɔmtɪ] ‘forgot’. This limits the distribution of short diphthongs even further than in other varieties, but being context sensitive, it does not affect the total number of oppositional possibilities.

## 5.4 HIATUS PHENOMENA IN FAROESE

### 5.4.1 Intervocalic glides

As in Icelandic (cf. section 4.1.5), historical and modern hiatus forms raise interesting questions regarding phonological analysis. The most striking difference between

<sup>6</sup> Recordings from Klaksvík and Fuglafjørður.

the languages in this respect is of course the *skerping* or *Verschärfung*, also discussed in section 2.9, giving stops in original hiatus positions in forms like *tíggju* [t<sup>h</sup>ʊtʃ:ʊ] ‘ten’, *nógvir* [nekʷiː] ‘many’, and *búgva* [pɪkva] ‘to live’. The corresponding forms in Icelandic have, as we saw in section 4.1.5 palatal and velar glides: *tíu* [t<sup>h</sup>iːy] ‘ten’, *nógir* [nouɪr] ‘plenty’, *búa* [puwa] ‘to live’.

The most straightforward synchronic analysis of forms like *tíggju*, *nógvir*, and *búgva* is to see them as having short vowels followed by coda stops, which can be lengthened according to stress (see sections 9.2 and 10.3). In the case of disyllables the stops form geminates in that they close the first syllable and open the second one. Thus the palatoalveolar stop in *tíggju* ‘ten’ can be transcribed [t<sup>h</sup>ʊtʃ.ʃʊ] or alternatively [tʊt.ʃʊ], and correspondingly in the case of *nógvir* ‘many’ the choice might be between [nek<sup>ʷ</sup>.k<sup>ʷ</sup>iː], or [nek.kʊi]. In monosyllabic forms like *oyggj* [ɔitʃ:] ‘island’ and *nógv* [nek<sup>ʷ</sup>:] ‘plenty’, the representation follows the same principles as in *høgg* ‘a blow’ and *rødd* ‘voice’, that is with a short vowel followed by a lengthened consonant or a geminate with the second member extrametrical or forming an onset to an empty final nucleus.

Another characteristic of interludes in Faroese disyllables is the virtual lack of intervocalic fricatives, due to the disappearance of the etymological fricatives, typically represented in the archaic spelling by *ð* and *g*, as in *gladur* [klea:ʊʊ] ‘happy’, *maður* [mɛa:ʊʊ] ‘man’, *gleði* [kle:ji] ‘enjoyment’, *lega* [le:a]/[le:va] ‘rest, place to lie’, *reiði* [rai:ji] ‘anger’, *lúður* [lʊu:wʊ] ‘horn’. The spelling often reflects (or reconstructs) the historical fricatives, and in some cases morphophonemic relations confirm the existence of obstruents at an earlier stage, for example as in *faðir* [fɛa:jɪr] ‘father-SG’ vs *fedrar* [fe:tɪaɪ] ‘fathers, ancestors’, and *veður* [vɛa:ʊʊ] ‘weather’ vs *veðrið* [vɛkɪɪ] ‘the weather’. But this would hardly motivate the construction of synchronic rules (or input–output relations) to mirror the loss of the fricatives and the development of stops before sonorants. Phonologically speaking the hiatus forms are ‘primitive’ and should appear as such in the lexical representation.

But hiatus seems to be a constant source of phonological ‘concern’, and the forms which have developed in Faroese due to the weakening or vocalization of the fricatives have opened up the need for new ‘remedial’ adjustments. As can be seen from the phonetic transcription of forms like *gladur* [klea:ʊʊ] ‘happy’, *maður* [mɛa:ʊʊ] ‘man’, *gleði* [kle:ji] ‘enjoyment’, etc., the syllable interludes are typically bridged by a glide, with varying, but regularly distributed, quality according to the surrounding vowels. The high vowels—/i/ and the [i]-diphthongs and /u/ and the [u]-diphthongs—invariably take high glides as following interludes, [j] and [w] respectively, but after non-high vowels, the quality of the glide is determined by the quality of the following vowel. The main rule is thus that a palatal glide is inserted in front high surroundings, and a labial or labiodental glide in rounded surroundings. The rules are thus rather complex, but may be summarized as in (5.13) (cf. Rischel 1961; Thráinsson et al. 2004: 38; Lockwood 1955: 14–17):

(5.13) a. Following a high vowel, a high glide is inserted:

- [j] following [i] or an i-diphthong:  
*sigið* [si:jɪ] ‘to lower-PAST.PART’, *siður* [si:jʊɪ] ‘custom’,  
*siga* [si:ja] ‘to say’, *miðjar* [mi:jaɪ] ‘middle-PL.FEM’,  
*deyður* [tei:jʊɪ] ‘dead’, *eiga* [ai:ja] ‘to own’.
- [w] following [u] or an u-diphthong:  
*róði* [rou:wɪ] ‘rowed-SG’ *róðu* [rou:wʊ] ‘rowed-PL’, *Nóa* [nou:wa]  
‘Noah’, *búði* [pu:wɪ] ‘live-PAST’, *búðu* [pu:wʊ]  
‘live-PAST.PL’, *túa* [t<sup>h</sup>u:wa] ‘to say *tú* (thou)’.

b. Following a non-high vowel [j] is inserted before an /i/ and [v]/[ʋ] before an /u/:

- gleði* [kle:jɪ]/[kle:jə] ‘gladness’, *løgin* [lø:jɪn] ‘odd’, *legu*  
[le:vʊ]/[le:və] ‘(the state) of lying down, a place to lie-DAT’.

According to these rules there is no glide after a non-high vowel before an /a/ in the second syllable, compare forms like *umrøða* [ʊmrø:ə] ‘discussion’, *laða* [lɛ:.a]/[le:.a] ‘to load’. But some forms have a glide [v] following a low vowel, which historically actually has a labial ancestor—in forms such as *grava* [kɹæ:va] ‘to dig’, *kavi* [k<sup>h</sup>ɛaʋɪ] ‘snow’—corresponding to Icelandic *grafa* [kra:va] ‘to dig’ and *kafa* [ka:va] ‘to dive’, where the spelling with *f* reflects the origin as a labial (labiodental) fricative. And phonologically unmotivated [v] may be copied analogically into surroundings other than those described in (5.13), giving forms like *søga* [søæ:va] ‘story’, *lega* [leɛ:va] ‘a place to lie-NOM’, *fløva* [fløæ:va] ‘disc’. Here the [v] is borrowed from phonologically regular oblique forms like *søgu* [søæ:vʊ] ‘story-OBL’, *legu* [leɛ:vʊ] ‘a place to lie-OBL’, and *fløvu* [fløæ:vʊ] ‘disc-OBL’. This analogical levelling as the one shows that the insertion of [v] according to (5.13b) is opaque (and neutralizing) and cannot be classified as a purely phonological rule or constraint.

It is worth noting in this context that the glide insertion after /i/ and /u/ in *seyðinum* [sei:jɪnʊn] ‘the sheep’, *viðinum* [vi:jɪnʊn] ‘the wood’, and *góður* [kou:wʊr] ‘good’ creates the same type of dilemma discussed in section 4.1.5 regarding syllabification of Icelandic forms like *daginn* [taijɪn] and *bogi* [pɔjɪ]: namely raising the question of where to put the syllable boundary and whether the interludes in *seyðinum* and *góður* are to be seen as a geminate glides—something like [sej.jɪnʊn] and [kow.wʊɪ]—or as diphthongs followed by singleton glides: [sei.jɪnʊn], [kou.wʊɪ] (see section 9.5). Although the situation seems to be similar in the two languages, pending further investigation we will follow the tradition of transcribing the Faroese diphthongs with a length mark, followed by a glide forming an onset to the following syllable: [sei:jʊɪ], etc.

#### 5.4.2 Raising in hiatus

Although, according to the rules in (5.13), no glide is inserted after non-high vowels before /a/, and there is a true hiatus in forms like *gleða* ‘to make happy’, *glaða* ‘happy-ACC.FEM’, and *boða* ‘to announce’, *báða* ‘both-ACC’, there are interesting

complications, and the accounts given in the handbooks do not correspond entirely to my observations. Lockwood (1955: 14) transcribes forms like *staðar* ‘place-GEN’ with a lowered mid high vowel [ɛ]: [stɛ:ar] whereas *gleða* ‘to gladden’ in his transcriptions has a cardinal mid high [e]: [gle:a]. It is to be noted that the vowel of the first syllable of *staðar*, represented in the spelling by *a* is not the regular [ɛa:] corresponding to historical *a*, as in *maður* [mɛa:ʊʊɹ] ‘man’. Based on the nominative *gladur* [klea:ʊʊɹ] we might expect something like \*[klea:a] for *glaða* ‘happy-ACC. FEM’. But in Lockwood’s transcription we have a slightly raised variant of the first constituent of the diphthong in the first syllable, followed by an /a/ which forms a second syllable. Significantly, the vowel of *glaða* is not taken to be as high as the vowel of *gleða* ‘to gladden’, so that there is a distinction between mid-low [ɛ] and mid-high [e] in these pairs. Lockwood also notes (1955: 9) a similar raising in the pronunciation of *á*, when followed by [a], giving a pronunciation like [fɔ:a] for *fáa* ‘to obtain’ and [ɹɔ:a] for *ráða* ‘to advise’. Thráinsson et al. (2004: 39–40) give a similar account of both front /ɛa/ and back /ɔa/ under these circumstances, noting that ‘when /æ/ [ɛa:] and /ɔ/ [ɔa:] precede /a/ the “expected” [ɛa: + a] and [ɔa: + a] is something like [ɛ̄:a] and [ɔ̄:a], respectively’. According to this it would seem that the vowels in these hiatus forms are a bit higher than the normal reflexes of the first elements of the diphthongs, but not as high as the mid vowels in *gleða* ‘to gladden’ and *boða* ‘to announce’.

There is thus a tendency, noted in the handbooks, to raise low vowels in these environments but without creating a merger with mid high vowels (since the vowels of *gleða* and *glaða* are distinct (respectively [e] and [ɛ]), and similarly for *boða* vs *báða* ‘both’, [o:] vs [ɔ]). But, it seems in fact that the raising of mid vowels before hiatus goes much further than these reports imply, since according to my observations *gleða* ‘to make happy’ can, beside [kle:a] be pronounced [kɫi:ja] or even [kli:ja] with a fully high vowel and a palatal glide. Similar pronunciations are to be found in forms like *bedraga* [pɛ'tɹi:ja] ‘cheat’, *dagar* [tɹi:jar] ‘day-NOM.PL’, and *meðan* [mi:jan] ‘while’, *klaga* [kʰɫi:ja]/[kli:ja] ‘to complain’ (presumably with alternative pronunciations like [pɛ'tɹɛ:a]/[pɛ'tre:a], [tɛ:aɹ]/[te:aɹ], and [mɛ:an]/[me:an]). To my knowledge, little attention has been paid to this phenomenon in the earlier literature, except in a brief remark by Rischel (1961: xxii), who notes that (written) *e* and *o* in words like *meðan* ‘while’ and *toga* ‘to pull’ may be raised to [i:] and [u:], followed by a glide according to the rules in (5.13), giving [mi:jan] and [tʰu:wa]. (See also Petersen 2010b.)

In the speech of those speakers who have this raising in forms with historical *a*, the difference between *glaða* ‘happy’ and *gleða* ‘to make happy’ is inevitably neutralized, both having the form [kli:ja], although, according to Eivind Weyhe (p.c.), it is conceivable that the [e] of a form like *gleði* [kle:ju] ‘happiness’ can be extended analogically into the verb *gleða* ‘to make happy’, giving [kle:a] which then contrasts with *glaða* [kli:ja] ‘happy-ACC.FEM’.

A similar raising and merger takes place in the back vowels [ɔ] and [o], which are also raised to [u], as in *boða* [pu:wa] ‘to preach’, *skoða* [sku:wa] ‘to investigate’, and *fáa* [fu:wa] ‘to get, obtain’. Thus the forms *toga* ‘to pull’, *duga* ‘to be able, manage’,

*fluga* ‘fly’, *suða* ‘to hum’, *knáa* ‘strong-FEM’, *fáa* ‘to obtain’ rhyme—all ending in [...u:wa].<sup>7</sup>

This implies a dissimilatory effect, so that ‘inputs’ like /stea.a.ɪ/ for *staðar* ‘place-GEN’ and /pɔa.a/ for *báða* ‘both’, with the diphthongs /ɛa/ and /ɔa/ before the same or similar /a/ in the following syllable, call for some sort of remedial measures. It looks as if something like the Obligatory Contour Principle causes dissimilation between two adjacent syllabic nuclei, or blocks the occurrence of two instances of [a] (expressing the A-element) one after the other across a syllable boundary. The result is that the A-element is altogether excluded from the first syllable, giving—with raising to high [i] and [u] and a glide forming an interlude—the outputs [sti:jaɪ] rhyming with *miðjar* [mi:jaɪ] ‘middle-PL. FEM’, and [pu:wa] rhyming with forms *túa* [tʰu:wa] ‘to say *tú* (thou)’.

What seems to be related to this phenomenon is the dialectal pronunciation in Vágur reported by Petersen (1996, cf. also Jacobsen 2001), with *glaða* ‘happy’ and *laga* ‘to make’, pronounced as [lei:ja] and [klei:ja] (as opposed, according to these accounts, to [lɛ:a] and [klɛ:a] in other dialects). And correspondingly for the back rounded [ɔa] in words like *fáar* ‘few’, the variant [fɔu:waɪ] is reported as corresponding to [fɔ:aɪ] in other varieties. And according to Petersen (1996: 13) forms like *kvøða* ‘to chant’ and *høga* ‘high-ACC.FEM’ can, among older speakers in Vágur, have the form [kʰvuu:wa] and [huu:wa], although due to influence from other varieties younger speakers tend to use more common variants, i.e. [kʰvø:a] and [hø:a].

Like the raising discussed above, the diphthongization in hiatus in these varieties causes merger of pre-existing forms with diphthongs. Thus in the same way as for *gleða* ‘to make happy’ and *glaða* ‘happy-ACC.FEM’ the raised variant rhymes with *siga* [si:ja] ‘to say’ and the raised variant of *boða* rhymes with *túa* [tʰu:wa] ‘to say *tú* (thou)’ and *duga* [tu:wa] ‘to manage, to know’ (cf. Chapter 2, Fn. 7), the diphthongal variant [klei:ja] for *glæða* of Vágur rhymes with *deyða* [tei:ja] ‘to kill’, and [fɔu:waɪ] for *fáar* rhymes with *góðar* [kouwaɪ] ‘good-FEM.PL’. As noted by Jacobsen (2001), this can lead to reversed or hypercorrect pronunciation, as in the dialect of Tjørnuvík, a small village situated in the north of Streymoy. For some speakers from this community, the form *deyðar* ‘dead-FEM.PL’, which normally has a diphthong [tei:jar], can be pronounced [tɛ:ar] or [tɛ:aɪ], on the analogy of the ‘correct’ form [hɛ:aɪ] or [he:aɪ] for *hagar* ‘field, wild’, which in the speech of Tjørnuvík commonly has the form [hei:jaɪ]. In these cases the historically ‘correct’ diphthong [ei] of *deyðar* is replaced by the ‘hypercorrect’ monophthong.

The raising, giving [ti:jaɪ] and [vu:waɪ] for *dagar* and *Vágur*, is relatively recent and is likely to be more common among younger speakers than older ones, but it may well be gaining ground quite fast. According to my observations there is quite a bit of variation between speakers and there is also intra-speaker variation so that one and the same

<sup>7</sup> The following rhyme is to be found on a milk carton, commending the healthiness of milk:

*Mia-Malua, / eg eri ein mua, / ið mangt og so mikið í skúla má duga. // Og tá eg møðist / við bókur at toga, / og stávur sum fluga / um eyguni suða, / man móðir mín mua: / „Áh, mia-malua, / ein sopa mín knáa / Raska skal fáa.“* Translation: ‘Mia-Malua [a hypocoristic name or address], I am a cow / who much and many things in school must know // and when I get tired / of working with books / and letters like flies / buzz for my eyes / my mother the cow will moo [say]: “Oh, Mia-Malua, my strong Raska [Brave one] shall get a sip”’. (Thanks to Hjalmar Petersen for help with the translation.)

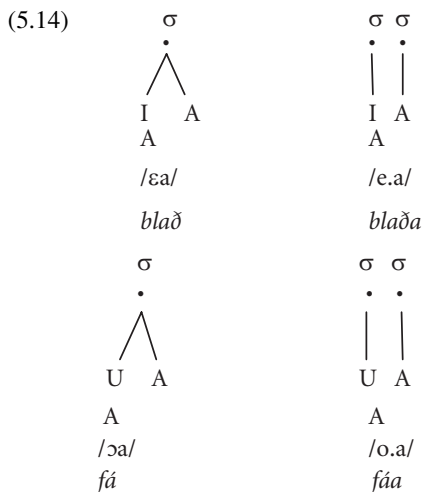
speaker may indiscriminately use the different forms [te:aɪ] and [tɪjaɪ] for *dagar* ‘days-PL’, [ske:an] or [skɪjan] for *skaðan* ‘the damage-ACC’ and [fo:a] and [fu:wa] for *fáa* ‘to obtain’, etc. Further investigation is needed into this variation than there is room for here.

In fact, although not as frequently, a similar raising can take place in forms like *umrøða* ‘discussion’ which, beside the more conservative [ʊmrø(w)a] can have a high back rounded first nucleus followed by a glide: [ʊmrøw.wa], compare also the form, which is reminiscent of the diphthongization noted by Petersen (1996: 13) in forms like *kvøða* ‘to chant’ and *høga* ‘high-ACC.FEM’, giving [k<sup>h</sup>vuu:wa] and [huu:wa] for older speakers in Vágur.

### 5.4.3 One or two syllables

There is an interesting question of formal analysis which arises in connection with the phenomena discussed in the preceding section. For some options in pronunciation, forms such as *blað* [plɛa:] ‘paper’ and *blaða* [plɛ:a]/[plɛ:a]/[plɪ:ja] ‘to leaf through’, form a near minimal pair based on syllabicity, so that the former has a monosyllabic diphthong, but the latter has the same sequence of qualities of two monophthongs forming two syllables separated by hiatus. A similar pair involving back rounded vowels is supplied by words like *fá* [fɔɑ:] ‘obtain-IMP’ vs *fáa* [fɔ:a]/[fo:a]/[fu:wa] ‘to obtain-INF’. The forms *blað* and *fá* are clearly monosyllabic, and even when lengthened under contrastive stress, the diphthong is lengthened as a unit: [plɛa:], [fɔɑ:], and there is no tendency to lengthen only the first part of the diphthong or to make the form disyllabic.

Representing diphthongs as branching segments and syllabic monophthongs as non-branching segments, the melodic composition and constituency of forms such as these can be represented as in (5.14):



A bisegmental sequence supplies two syllabic nuclei, whereas a diphthong supplies one, and hence the difference in the number of syllables. The raising in the disyllabic forms can be seen as some sort of dissimilation or OCP-effect. But interestingly nothing of this sort happens in the diphthongs, as indeed we have argued that there is no need for any sort of skeletal structure in terms of morae or x-slots in the representation of the diphthongs. Under these conditions, there is no reason to dissimilate, and to the extent that the OCP is taken as a genuine principle, we may take this as a case supporting the view that the diphthong is one prosodic unit, whereas the disyllabic forms have a sequence of two such units.

The raising in the disyllabic forms *blaða* and *fáa* may be seen as one more instance of a sort of dissimilation or a tendency toward glide formation conditioned by hiatus. Thus some outputs for words like *blaða* 'to leaf through' and *fáa* 'to obtain' can be analysed as having the familiar structure with geminate glides after high vowels: [pl̥t̪j.ja] and [f̥u.w.wa].<sup>8</sup>

## 5.5 THE UNSTRESSED VOWELS OF FAROESE

### 5.5.1 *The vowel qualities*

It was argued in section 4.2 that there is no reason to posit a special vowel system for weak syllables in Modern Icelandic (unlike Old Icelandic and many other Germanic languages, including English), the argument being, among other things, that loan words and neologisms showed that similar constraints seemed to apply in all Icelandic syllables on the level of lexical phonological structure and that there were no special constraints valid for unstressed syllables. Here Faroese is markedly different from Icelandic and more like English, since there is reason to assume more than one type of syllable on the lexical level. In addition to the full syllables, closed or open with a restriction in the inventory allowed in the closed syllables, there is a third type of environment regarding vowel oppositions in what we shall refer to as **restricted syllables**.

Written forms like *maður* 'man', *kvinna* 'woman', *vinir* 'friends', and *landinum* 'the land-DAT' suggest a system of three vowels in inflectional endings, represented by *i*, *a*, and *u*, and for some varieties these vowels actually occur as [ɪ], [ʊ], and [a], but in many cases further neutralization reduces the number of possibilities to two or one or even zero. Examples showing these three 'ideal' vowels in non-initial syllables are given in (5.15):

<sup>8</sup> Faroese does not have short vowel hiatus forms corresponding to Icelandic: *bogi* [pɔi.jɪ]. In forms like *staðnum* [stɛa.nɔn] 'the place-DAT', *vegnum* [ve.nɔn] 'the road-DAT', potential forms like [stɛa.jɪnɔn] and [ve.jɪnɔn] which might result from the use of *-inum* as a dative ending are 'avoided' by using the monosyllabic variant *-num*.

- (5.15) *maður* [mɛa:ʊʊɪ] ‘man’  
*kvinna* [kʰvɪn:a] ‘woman’  
*vinir* [vi:nɪɪ] ‘friends’  
*landinum* [lant(ɪ)nʊn] ‘the land-DAT’  
*akur* [ɛa:kʊɪ] ‘field’  
*himin* [hi:mɪn] ‘sky, heaven’  
*gamal* [kɛa:mal] ‘old’  
*bendil* [pɛntɪl] ‘thread, lace’  
*trupul* [tru:pʊl] ‘difficult’

The ideal system for weak syllables thus has three qualities, which can be represented in element terms as I, U, and A:

- (5.16) *i* [ɪ]                      *u* [ʊ]  
                     *a* [a]

As the spelling suggests, these sounds correspond to the classical West Nordic unstressed vowels and in fact the quality is similar to what has been assumed for the older stage, including Old Icelandic. And the epenthetic vowel which has developed in ON *akr* ‘field’, giving MF [ɛa:kʊɪ], is a back rounded vowel in the handbook standard. We thus note that the unstressed /u/ has not been fronted, as in Icelandic (cf. section 4.2); rather we have (ideally) a clear back vowel in forms like *durum* [tʊ:ɪʊn] ‘doors-DAT’.

Another restriction regarding these syllables is that they typically only allow /r/, /n/, or /l/ as consonants. (The *ð* in the spelling of forms like *barnið* [patnɪ] ‘the child-NOM’ is never pronounced.) This limit on the phonological possibilities within the weak syllables is, among other things, reflected in the treatment of older borrowings. Thus the name *David*, which in Icelandic has the form *Davíð* [ta:viθ] (older *Dávíð* presumably [ta:vi:(:)ð]), has the form *Dávur* [tɔa:vʊɪ]. In this form, the final consonant is an approximant /r/, the dental fricative being excluded from this environment. (This ‘rhotacism’ of the fricative also takes place in native forms like *høvur* [høæ:vʊɪ] ‘head’ which corresponds to Icelandic *höfuð*.)

This being said, it must be noted that more recent borrowings may have a more complex structure. Such recent loans as *party* [parti] and a more modern version of the name *David*, i.e. *David* [ta:vɪt] can have a structure different from the traditional restricted ones. The same is also true of some Danish loans, such as *staving* [sta:viŋk] ‘spelling’. These syllables can be taken as full syllables in the same way as the second syllable of words like *ítrótt* ‘sport’ (see section 9.2.4). (But as we shall see in sections 9.2.4 and 14.4.2, it is possible for such unstressed full syllables to be reduced, for example in place names like *Svínoy*, which beside [ʼsvʊi:nɔi] may be uttered with a reduced final vowel: [ʼsvʊi:nə].)

From the prosodic point of view, the main characteristic of the restricted syllables is that they are not allowed to take word stress (and by extension cannot carry the sentence accent, cf. Chapter 14). The phonological conditioning is thus connected to stress but various finely tuned constraints regarding phonological



environment are active, and there is a great deal of stylistic and individual variation to do with dialect mixture and, at times it seems, influence from the written standard and schooling.

As can be seen from works like Hagström (1967), Weyhe (1996), Werner (1964), Staksberg (1991), Selås (1996), and Jakobsen (1997), the analysis of unstressed vowels in Faroese is no simple matter. There is quite a bit of variation in the realization of the vowels in the restricted syllables. And as pointed out by Weyhe (1996: 79), no speaker will find that the spelling conventions correspond to his spoken language ('*enginn í landinum kennir skriftmálsskipanina aftur í sínum talumáli*'). The variation in the ending vocalism in Faroese in part follows patterns of dialect variation, but there is also a connection to style, and morphology and the standard orthography and schooling should not be excluded as conditioning factors (see Weyhe 1996).

### 5.5.2 The syllable types

We will start our analysis of these phenomena by trying to characterize the status of the restricted syllables as part of the prosodic system. Both Hagström (1967) and Rischel (1961) classify Faroese syllables into different types according to stress. Reflecting a traditional view on Swedish (see Danell 1937), Hagström proposes four categories for Faroese, with degrees from 0 to 3. But like other older accounts of stress in terms of numeric scales, the four degrees of stress can be analysed in binary categorical terms by distinguishing in the first instance between two types of syllables, those which take word stress (primary or secondary) as the heads of feet (cf. Chapter 14 below), and those which do not (namely restricted syllables), and in the second instance between relatively weak and strong alternants in each category.<sup>9</sup> And in fact this typology is implicit in Hagström's hierarchy (1967: 47), since he distinguishes between four types of stress: main stress (Swedish: *starkttryck*, *betonad huvudtryck*), strong secondary stress (*starkt bitryck*), weak secondary stress (*trycksvag*, *svagttryck*, *svagt bitryck*), and completely unstressed (*helt trycksvag*). Jørgen Rischel (1961: xv) talks about syllables which vacillate between being stressed or unstressed as (latent) stress syllables (*(latente) trykstavelser*), whereas the weakest syllables, the ones that do not take any stress, he calls zero syllables. A terminology which is often applied to this distinction between two types of unstressed syllables, is *levis* and *levissimus*.

According to Hagström's analysis (1967: 48), disyllabic words can be uttered either as 3 0 or 3 1. Under the 3 1 pattern (where the second syllable is *levis*), the ending is clearly or fully (*fylligt*) pronounced whereas in the 3 0 pattern (where the ending is *levissimus*), the pronunciation is less clear or more fluctuating (*mer flyktig*). The examples are in Hagström's transcription: *stórur*, ['stou.rø] 'big', *svevur* ['sve:vø] 'sleeps' for the *levis* version. For trisyllabic words like *munurinn* ['mu:nø.ɪn] 'the difference', the middle syllable is always *levissimus*, but the final one can be *levis*.

<sup>9</sup> Cf. the reinterpretation by Liberman and Prince (1977) of Chomsky and Halle's (1968: 59–162) numerical analysis in terms of strong–weak relations within metrical phonology.

In the disyllabic examples, Hagström transcribes the *levis* final vowels in *stórur* ‘big-MSG’ and *svevur* ‘sleeps’ as a central rounded vowel, which presumably could in principle be distinguished from an etymological /i/ in words like *stórir* ‘big-MPL’, but the vowel of the middle syllable in *munurinn* has, as can be seen from the transcriptions, an unrounded schwa, namely a less clear quality. This would imply that, in the relevant dialect, there is a system of three vocalisms in the *levis* syllables, but two or perhaps only one in the *levissimi* syllables. In a similar vein Weyhe (1996: 79) counts the normal ending syllables, such as /-ir/, /-ur/, /-in/, /-um/, /-il/, /-ul/ as weak *levis*, but in penultimate syllables, for example *hestinum* ‘horse-DAT.DEF’ and *hestunum* ‘the horses-DAT.DEF’, the syllable is totally unstressed (*stavilsíð er heilt herðingarleyst*) and classified as a *levissimus*. In fact this syllable is frequently deleted.

As already stated, we will assume here that the four degrees of stress may be analysed in terms of a distinction between two fundamentally different types of syllable, each of which can be relatively strong or weak according to its position in words and utterances. On the one hand there are full syllables, which can form heads of feet and take a word stress. These are syllables like *stór-* in *stórur* ‘big’ and *frøð-* in *frøði* ‘learning’, and they can also take a secondary stress through weakening relative to the main stress in compounds like *‘sjúkra røktar frøðingur* ‘nurse’ (literally *sjúkra* ‘sick-GEN.PL’, *røktar* ‘nursing-GEN.SG’, *frøðingur* ‘specialist’). In this doubly compounded form, the first syllable bears the main stress, but secondary stresses (or reduced word stresses) occur on the syllables *-røkt-* and *-frøð-*. This is obviously related to the fact that the morphemes occur in separate words like *røkt* ‘cultivation, care’ and *frøði* ‘science, learning’.

The other type of syllable is basically weak. In our example, these are the second, fourth, sixth, and seventh syllable in *sjúkrarøktarfrøðingur*. The fourth and the sixth syllable would presumably be classified as *levissimi* in the traditional terminology. But the difference between *levis* and *levissimus* can be illustrated with the help of the last two syllables in this word. The difference is at least partly determined by rhythmic conditions, so that *levissimus* is a weak syllable in a weak position, but *levis* is a weak syllable in a relatively strong position as governed by the utterance phonology, and in particular by features of the rhythmic environment, such as the tendency to alternate strong and weak syllables (see Chapter 14).

In a trisyllabic form like *munurinn* [mu:nə.ɪn] ‘the difference’, the middle syllable is the weakest, as reflected in Hagström’s transcription with a schwa. Further examples of the effects of rhythmic enhancement or weakening are common in Faroese words like *‘munu, rin* [mu:nə.ɪn] ‘the difference’ and *‘báta, nir* [pɔɑ:tə.ɪn] ‘the boats’. Here the middle syllables are taken as *levissimi*, but the last ones as *leves*. In some cases, the ‘levissimus’ syllable in forms which are written *hestinum* ‘the horse-DAT.SG’ vs *hestunum* ‘the horse DAT.PL’ are not realized, so that there is no actual syllable. Here the vowels corresponding to the *-i-* and *-u-* in the second syllable of the written form most probably disappeared before the advent of writing (around 1800), (see Weyhe 1996: 81). But it is possible that an intermediate stage in this development is a syllabic nasal (cf. Sandøy 1994; see also Fn. 12, p. 96 below).

A question arises regarding the status of the second syllable of *-frøðingur*, which is a word formational suffix which also occurs in words like *víkingur* [vɔi:ʃɪŋkʊɪ]

‘viking’, *Føroyingur* [fø:ɪŋkʊɪ] ‘a Faroese, Faroeman’. A similar type of derivational syllable is to be found in words like *harð-skapur* [hæa:rskepʊr] ‘harshness’, *sann-leiki* [sanlætʃi] ‘truth’. These syllables allow phonological distinctions outside the limited system of the structurally weak syllables and should accordingly be classified lexically as full syllables. But their position as second syllables in trisyllabic words makes them susceptible to rhythmic weakening. However, their inherent strength prevents them from becoming *levissimi*, a term reserved for restricted syllables in a rhythmically weak position.

The stress pattern of *sjúkrarøktarfrøðingur* and *munurinn* is illustrated in (15.17) with the help of asterisks on a metrical grid. The asterisks on line 1 represent the full syllables, and the asterisks on line two represent the word stresses. The bracketed stars represent the potential rhythmic strength in odd numbered syllables:

- (15.17)
- |                       |     |   |     |  |
|-----------------------|-----|---|-----|--|
| *                     |     |   |     |  |
| *                     | *   | * | (*) |  |
| sjúkrarøktarfrøðingur |     |   |     |  |
| *                     |     |   |     |  |
| *                     | (*) |   |     |  |
| munurinn              |     |   |     |  |

The stress system of Faroese (like Icelandic) thus aims for alternating stress with some strength on odd-numbered syllables. But the alternating pattern can be disrupted in compounds. Thus a word like *'almanna*·*kunngjörd* ‘public announcement’ has a secondary stress on the fourth syllable, which is the first in the second part of the compound, the first part being trisyllabic *almanna* ‘public-GEN’, and the second stress deriving from *kunngerð* ‘announcement’. As we shall see in Chapter 13, Icelandic compounds like *'drottningar*·*maður*, ‘the queen’s husband’ can have the same pattern. Here the strength of the second part of the compound is projected to the surface, leaving two relatively weak syllables, whereas in forms like *'drottning*·*gar* ‘queen-GEN’ the secondary stress is rhythmically conditioned, and the same happens in Faroese *'alman*·*na* ‘public-GEN’, that is a syllable which is not adjacent to a strong syllable is ‘strengthened’ (cf. Árnason 2005a: 433 and *passim*).

The conclusion is that the interplay of inherent strength and rhythmic strength leads to partly similar patterns in the two languages. The rhythmic principles are similar, but the difference lies in the typology of syllables. Unlike Icelandic, Faroese has maintained the distinction between full syllables (potential heads of feet) and weak syllables, which can never be heads.

### 5.5.3 *Dialects and morphology in unstressed vowel merger*

As already mentioned, in many Faroese varieties, the vowel system of the restricted syllables has been reduced even further (in the manner of many Norwegian, Swedish, and Danish dialects). The variation created by this further reduction follows extremely complex patterns, and looks chaotic at times. But although the documentation of the details needs more work than there is room for here, the principles behind

the variation seem to be understandable. What we have is a postlexical tendency of vocalic reduction and even syncope, sensitive to a number of conditioning circumstances. Among the factors which have an effect on the actual outcome and distribution of variants is dialect variation, another has to do with morphological oppositions, and a third is speech style and tempo. In fact the phenomena supply an excellent subject for a sociolinguistic study, examining the phonological, morphological, geographical, and social conditions of the variation (Selås 1996).

From the point of view of vowel colour, it is the high sounds in particular, /i/ and /u/, which have been subjected to merger or reduction. According to Hagström (1967: 150–6), these sounds coalesce mainly in three dialect areas. One such area is in the north, another in the south and the third place where such mergers occur is Tórshavn, the capital. The northern area comprises parts of Norðuroyar (Kalsoy, Kunoy, Borðoy, Viðoy, Svínoy, and Fugloy), but the southern area is on Suðuroy, the southernmost island. The tendencies in the vowel merger differ according to phonological environments. Thus there is a greater tendency for vowels to merge finally and before /r/, than before /n/. The merger of the inflectional endings such as *-ir* and *-ur* is thus the most noticeable. This is typical of Norðuroyar (including Klaksvík), but a similar merger is also to be found in Tórshavn. In the Norðuroya variant, the endings in *drongir* ‘boys-PL’ and *steinur* ‘stone-SG’ thus both appear as [ɪɪ], according to a report by Christian Matras (1932), who was from that area (Hagström 1967: 151). But according to the same source the merger of /i/ and /u/ can go even further so that it occurs before a nasal. In an area limited to Viðoy, Svínoy, and Fugloy the endings *-in* and *-um* as in *bátin* ‘boat-DEF.SG.ACC’ and *bátum* ‘boat-DAT.PL’ may both be pronounced as [pɑ:tɪn], and furthermore the form *bátinum* ‘boat-DEF.DAT’ can, according to Matras’s report, be pronounced something like [pɑ:tɪni] or [pɑ:tɪnɛ].

In the other parts of Norðuroyar, there is, according to Hagström (1967: 151), no merger of the */-in/* and */-un/* endings, although before other consonants and in final position, the merger of /i/ and /u/ is widespread. The phonetic effect here is, therefore, that a following nasal may have a preserving effect on the vowel distinctions, but still not in all varieties.

According to Petersen (1996: 18) the dialect of Vágur in the north-west generally distinguishes between three vowel qualities. Petersen connects this with the special prosodic dialect feature called *drynjingin*, which according to him has the effect that endings and final vowels are relatively clearly pronounced.<sup>10</sup> But although the phonological distinction is made in this variety, the distribution of */-ir/* or */-ur/* as endings does not always correspond to the historical origin or the norm presented in

<sup>10</sup> The dialect feature called *drynjingin* ‘the rumbling, the moaning’ is commonly referred to in folk linguistic discussion of dialectal differences (cf. section 15.3). It is associated with Vágur and seems to have been stigmatized. Very few speakers can now be identified as having this feature, and it is not too clear what linguistic characteristic is actually involved. But it was most likely a special intonational pattern. According to Eivind Weyhe (p.c.) the intonational contour was an HLH pattern at the end of utterances, for the verbal form *fara* at the end of an utterance something like:

fəa:ra  
HLH

handbooks. Thus the prepositions *eftir* ‘after’ and *undir* ‘under’ are pronounced [ɛ<sup>h</sup>tʊɹ] and [ʊntʊɹ], although the spelling suggests [-ɪɹ] for both endings.

In Tórshavn, the merger of /-ir/ and /-ur/ and of final /i/ and /u/ is well known, whereas the difference between *-in* and *-un* is maintained as [ɪn] and [ʊn]. The quality of the merger vowel in final position and before /r/ may vary; in recordings made in Tórshavn in August 2008, typical pronunciation variants for final vowels are [hʊu:sɛ] for *húsið* ‘the house’ and [lɔɪnʃɛ]/[laɪnʃɛ] for *leingi* ‘long-ADV, for a long time’, and the same goes for final open-syllable vowels in forms like *útsynningi* [ʊs:ɪnɪŋʃə] ‘south-west wind-DAT’ for final /i/. For the final /u/, as in *søgu* ‘story-DAT’ a pronunciation like [sæ:və] seems to be common. Variation typical for the /-ur/ endings is shown in the following utterance (Speaker T-1): [stɔʊr.əmoʔtɔrbɔatɹ] for *stórir mótorbátur* ‘big motorboat’. Here we seem to have a fully centralized unrounded vowel in the ending of *stórir*, but a rounded one in *bátur*. The *-ir* ending is typically pronounced with similar vowels, as in the expression *tvær ferðir* [t<sup>h</sup>væ:ɹfɛa:ɹəɹ] ‘two times’, although in Tórshavn rounding seems to be rare in etymological /-ir/. The third type of ending, namely *-ar* as in *mær dámar* ‘I like’ can also have the same sort of vowel variation, as shown below.

The dialect of Suðuroy sets itself apart from other Faroese varieties in many respects. One characteristic, according to Hagström (1967: 152), is that as in some parts of Norðuroyar unstressed /i/ and /u/ have merged in all endings. But an even more distinct characteristic of Suðuroy speech is that the outcome of the merger is likely to be a back (velarized) and rounded vowel. An example showing this is the pronunciation [ʊntʊɹ] for *undir* ‘under’. A related and quite noticeable special feature of *Suðroyarmál* is the appearance of rounded vowels in endings with *-in*, which implies a merger before nasals, as in *morgunin* [mɔɹkʊnʊn], *Fámjin* [fa:mijʊn] ‘the name of a village’, *maðurinn* [mɛa:vəɹn].

According to Weyhe (1996: 80), the merger of the endings /-ir/ and /-ur/ and the morphological confusion which comes with it is relatively recent. Thus, although there is some vacillation in the representation of unstressed vowels in manuscripts from the nineteenth century (cf. Hagström 1967: 172–215), the oldest recorders of poetry (before and after 1800) did not have great problems in distinguishing between the /ir/ and /ur/. And it is unlikely that the systematic distinction between the two endings in the standard orthography would have been accepted in the first place if there was no support for it in the spoken language at the time (the second half of the nineteenth century). One of the motivations for the maintenance of the distinction in spelling was probably the function of the difference in inflection, between *stórir* ‘big-MASC.SG’ and *stórir* ‘big-MASC.PL’. In fact, it is an interesting question generally how this phonological development connects to the degeneration and potential disintegration of the Faroese inflectional system. The question is to what extent the

It is possible that some sort of extra prominence was associated with the second H. Although this may be reminiscent of some tonal contours associated with the accent system of Norwegian and Swedish varieties, there is no indication that the *drynjing* was lexically restricted in the same way as the Scandinavian word tones.

morphological functions affect the pattern of reduction, and conversely, what effect the phonological reduction has on the morphology, and even syntax.

In fact, as already mentioned, the correspondence between the morphology and the phonology, even if systematic, is not always in accordance with the standardized spelling. Thus, according to Weyhe (1996: 79–80), although the phonological opposition is maintained between /-ir/ and /-ur/, in Sandoy, Vágur, the northern part of Streymoy, and partly in Kalsoy, the westernmost of the northern (and eastern islands), the morphological distinctions do not correspond to those in the written standard. In these dialects /-ir/ marks generally the plural of nouns, whereas the handbook norm has (partly) reconstructed the historical relations. Thus orthographic *vinir* ‘friends’, *bygdir* ‘villages’, *konur* ‘women’, *bøtur* ‘improvement-PL’, and *eygur* ‘eyes’ all have /-ir/ as plural endings: /vi:nir, bigdir, ko:nir, bø:tir, ejir/ (in Weyhe’s transcription), whereas /-ur/ is the present singular marker in verbs with standard spellings like *bøtir* ‘compensates’, *siglir* ‘sails’, *torir* ‘dares’, *bítur* ‘bites’, *krevur* ‘demands’: /bø:tur, siglur, to:rur, bítur, kre:vur/ (again in Weyhe’s transcription). And the singular forms of nouns all have /-ur/, apparently as a marker of singularity: *vinur* [vi:nuɹ] ‘friend’, *dalur* [dæa:lʊɹ] ‘valley’, etc., against the /-ir/, which has been generalized in the plural.

However, the distinctions seem to be generally quite unstable, and in an open final syllable, /i/ and /u/ are likely to merge in these dialects, according to Weyhe, and similarly, no distinction is here made (in spite of the spelling) between /i/ and /u/ in penultimate syllables (*levissimi*). Thus there is no difference in pronunciation between the definite forms *hestinum* ‘horse-DAT.SG.DEF’ and *hestunum* ‘horse-DAT.PL.DEF’, nor between the endings of *bygdini* ‘village-DAT.DEF’ and *konuni* ‘woman-DAT.DEF’, which are pronounced [piktɪni], [k<sup>h</sup>ʊ:nɪ].

The morphological effects are interesting, as it seems that conflicting forces are at work. Although the restructuring must be seen as resulting from some sort of phonological chaos or neutralization, the tendency to systematize the semiotic function must be based on a phonological distinction which has some status in the linguistic system of the northern varieties. From the point of view of the framework applied here, the main question is whether we should assume distinctions in the input for the weak syllables, motivated by morphological oppositions, which then may be neutralized in some environments, or whether some other principles govern the distribution of the variants or some input restructuring has occurred which can account for the variation (cf. Bermúdez-Otero 2006: 502).

Another instance of morphophonemic involvement is the phonologization or ‘phonemicization’, leading to opacity in the distribution of palatal vs non-palatal allo-morphs originally conditioned by different vocalic endings, which have been neutralized by merger. Thus the distribution of palatal vs labial glides is ‘etymologically’ conditioned by a following [ɪ] vs [ʊ]. But after the merger, this phonetic conditioning is no longer present, making the distribution of glides phonologically opaque, as shown in (5.18):

- (5.18) a. *heilagur* [hɔi:lavəɹ]/[hai:lɛavʊɹ] ‘holy-SG’  
           *heilagir* [hɔi:lajəɹ]/[hai:lɛajəɹ] ‘holy-PL’  
       b. *gleði* [kle:jə] ‘happiness’  
           *glæður* [klɛa:vəɹ] ‘happy’  
       c. *kallaði* [kʰatlaɹ] ‘called-SG’  
           *kallaðu* [kʰatlavəɹ] ‘called-PL’

Similar examples involving alternation between palatal and velar stops is to be found in paradigms like the ones in (5.19), taken from Weyhe (1996: 82):

- (5.19) *tann klóki* ‘the crafty one’ [tʰaŋkʰlɔu:ʃɪ] > [tʰaŋkʰlɔu:ʃə]  
       *teir klóku* ‘the crafty ones’ [tʰaiɹkʰlɔu:kʊ] > [tʰaiɹkʰlɔu:kə]  
       *tann ungi* ‘the young one’ [tʰaʰnʊŋʃɪ] > [tʰaʰnʊŋʃə]  
       *teir ungu* ‘the young ones’ [tʰaiɹʊŋkʊ] > [tʰaiɹʊŋkə]<sup>11</sup>

In examples such as these, the palatal–velar alternation has taken on the ‘role’ of marking the opposition originally located in the ending vowels, but according to Weyhe (1996: 82) there is a tendency to generalize the palatalized allomorph and thus cause a morphological syncretism, giving [tʰaiɹkʰlɔu:ʃə] or even [tairkʰlɔu:ʃɪ] for *teir klóku* ‘the crafty ones’, in analogy to [tʰaŋkʰlɔu:ʃə] or [tʰaŋkʰlɔu:ʃɪ] ‘the crafty one’ etc. Also the form *kallaði* ‘call-PAST’ [kʰatlaɹ] may be generalized to represent both singular and plural, cf. (5.18c).

#### 5.5.4 The postlexical reduction and syncope

The reduction and neutralization of the unstressed vowel system is clearly an ongoing phenomenon with a lot of variation. The quality of the final vowels can vary from relatively clear [ɪ], [ʊ], and [a] to schwa or even total deletion or syncope.

A sample of such variation based on an interview (11 August 2008) with an informant from Tórshavn (T-1) can be seen in (5.20). As we see from the examples, the informant is fairly inconsistent in the pronunciation of weak syllables:

- (5.20) Final /i/ and /u/:  
       *búgvi* [pɪkvɪ] ‘I live’, *leingi* [lɔiŋʃə] ‘for long’, *húsið* [hʊu:sə] ‘the house’,  
       *vóru* [vɔu:ɹə] ‘were’, *vildi* [vɪltə] ‘wanted’, *meintu* [maiŋtə] ‘meant, thought’,  
       *Fuglafirði* [fʊklaføɹə] ‘name of a village’, *lífi* [lɔi:və] ‘life-DAT’, *verið*  
       [ve:ɹɛ] ‘been, past participle of *vera* ‘to be’, *stevnið* [stɛʊnə] ‘the prow’  
       Word medial:  
       *stadigvek* [sta:døvɛʰk] ‘still’, *bygdine* [pɪktɪŋ] ‘the village’  
       Endings in *-ir* or *-ur*:  
       *fellur* [fɛtlɔɹ]/[fɛtl(ɹ)] ‘traps’, *stórir* [stɔu:ɹəɹ]/[stɔu:rəɹ] ‘big’,

<sup>11</sup> A contrast based on palatalization can also be maintained in the case of syncope (cf. section 5.5.4 below), as e.g. between *ungur* [ʊŋkɹ] ‘young-MASC.SG’ and *ungir* [ʊŋʃɹ] ‘young-MASC.PL’.

*kettur* [ʧε<sup>h</sup>təɪ] ‘cats’, *eftir* [ε<sup>h</sup>t[ε<sup>h</sup>tɿ] ‘after’, *allir* [atɭɜɪ] ‘all’, *undir* [ʊntəɪ] ‘under’

-ar

*bátar* [pɔɑ:tɕɪ] ‘boats’, *settar* [se<sup>h</sup>tɜɪ] ‘put’, *vikurnar* [vi:kənɜɪ] ‘weeks’

Before nasal:

*voksin* [vɔksɪn] ‘grown’ *beinkinum* [poiŋtɕɪnʊn] ‘the bench’, *fellum* [fetlʊn] ‘traps’, *húsinum* [hʊu:səɪnʊn] ‘the house-DAT’

-a

*átta* [ɔ<sup>h</sup>t:ɑ] ‘eight’, *Bakka* [pa<sup>h</sup>k:ə] ‘place name’, *minka* [miŋkə] ‘decrease’, *sjókastað* [ʃou:kastə] ‘thrown from the sea’, *kona* [k<sup>h</sup>oɔ:na] ‘woman’, *sigá* [siɜ] ‘to say’

It would seem, judging from the variation in the quality of the unstressed vowels, that this speaker comes close to having neutralized the difference between /i/ and /u/ both finally and before /r/. But it seems that before a final nasal, a distinction is made between a front unrounded and a back rounded vowel. And /a/ might well be seen as having a separate vowel finally and before a nasal, although before /r/ it seems to be centralized and to have merged with /i/ and /u/.

Another commonly occurring phenomenon, which is to be found in the speech of this informant and many others, is a deletion or total syncope of the vowel in the final syllable, so that a form like *eftir* ‘after’ is pronounced [ε<sup>h</sup>tɿ] (instead of, say, [ε<sup>h</sup>tɪɪ] or [ε<sup>h</sup>təɪ]) and a phrase like *veit ikki* ‘don’t know’ is realized as [vai:tɕ<sup>h</sup>], instead of, say, [vai:tɕɪ] or [vai:tɕɪ]. Examples showing this in the speech of the informant T-1 are shown below:

- (5.21) *eftir* [ε<sup>h</sup>tɿ] ‘after’, *aftur* [a<sup>h</sup>tɿ] ‘again’, *fellur* [fetɿ] ‘traps’, *einki* [ɔiŋtɕ(ə)] (voiceless release) ‘nothing’, *ókyrru* [ouɕɪɪ(ʊ)] (very weak vowel, no clear devoicing) ‘rough sea’, *aftur* [a<sup>h</sup>tɿ] ‘again’, *gjørði* [tɕœɪt(ə)] ‘did’, *veit ikki* [vai:tɕ<sup>h</sup>] ‘(I) don’t know’

This deletion or syncope seems mainly to occur at the end of utterances, that is before a pause. An example showing this is the following utterance by speaker (T-1, 3:40):

- (5.22) ...*er hann nevndur* [nevntøɪ], *so er hann kendur* [tɕent<sub>o</sub>]  
‘if he is named, then he will be known’

In the first occurrence (*nevndur* ‘named’) the ending *-ur* forms a clear syllable, whereas at the end (*kendur* ‘known’) we have deletion and devoicing. In fact the syncope is often accompanied by some sort of voiceless release after the final consonant. (In a way its function and distribution is reminiscent of that of final devoicing in Icelandic, cf. sections 14.5.2-3).

It is therefore not certain that the final syncope is connected to stress or rhythm in the same way as the deletion of the middle syllable in trisyllabic forms like *bátinum* ‘the boat-DAT’ (also well attested in Icelandic, cf. Árnason 2005b: 418 and section 14.4.1), as in the following example from T-1:



(5.23) *eftir bátinum* [ɛ<sup>h</sup>tɪ'pɔɑ:tɪnʊn] 'after the boat'

In this form, there is some sort of rhythmic enhancement or secondary stress on the final syllable, as indicated in the transcription.<sup>12</sup>

A study of the unstressed endings in the language of Tórshavn was undertaken by Selås (1996; see Jacobsen 1997 for a summary). The study surveyed the pronunciation of the unstressed vowels before <r>, that is endings written as *-ir* or *-ur*, and identified the following five categories for vowels or endings in these environments (Selås: 59–60):

- (5.24) [ɪ] labelling realizations interpreted as front, high-mid, unrounded
- [ʊ] labelling realizations interpreted as back, high-mid, rounded
- [ə] labelling realizations interpreted as mid, central, unrounded
- [ɾ] labelling realizations where no vowel is heard
- Ø labelling realizations where neither a vowel nor an r-segment was registered

According to Selås's statistics, the most common vowel quality for the endings <ir> and <ur> is [ə] (50%), the second most common variant is [ɾ] (21%), that is vowel deletion, the least common being the total deletion of the syllable, including the consonant (3%).

The statistics suggest some correlation with spelling, so that forms spelled with *-ir* tend to give [ɪ] and the spelling *-ur* tends to give [ʊ], but all in all seventy per cent of the endings had been neutralized by centralization to [ə] or deletion. The tendency to delete the vowel—giving [ɾ]—is stronger among young people than in the older group. Also, there seems to be some tendency for nouns to prefer [ɪ] for plural endings (cf. *vinir* 'friends', *bygdir* 'villages') and [ʊ] in the singular (cf. Selås 1996: 79–80), although it may be difficult to separate this potential morphological effect from that of the orthography.

### 5.5.5 *Coping with the variation: a folk-linguistic anecdote from Tórshavn*

As can be seen from the account above, the unstressed vowels of Faroese raise a number of questions, both relative to phonology, morphophonemics, and not least sociolinguistics. In fact there is a high level of consciousness about linguistic variation in the Faeroes, and the different realization of the endings is one of the features which comes up in discussion of linguistic variation, with many speakers being conscious of it. It is likely that the problems that speakers face in schools, learning to read and write, have had an effect. It is obviously difficult for speakers who have merged the *-ir*/ and *-ur*/ endings to know where to use each spelling. And this has

<sup>12</sup> According to Sandøy (1994) the medial nasals of contracted forms of words like *bátinum* are still trisyllabic, the nasal being syllabic in the manner of final nasals in Danish forms like [sa:m] *sammen* 'together' or Norwegian [pɔ:tɪ] *båten* 'the boat'. But the question is why we should assume syllabification like [pɔɑ:tɪ.ʊn] with an onsetless third syllable (or perhaps [pɔɑ:tɪ.nʊn]) as distinct from e.g. [pɔɑ:tə.nʊn] or [pɔɑ:t.nʊn].

most probably been instrumental in raising the level of consciousness regarding the variation. The situation is perhaps best illustrated by the following anecdote.

In a discussion with informant T-1 about dialect differences the question of the phonetic form of the ending /-ir/ or /-ur/ came up. When asked about *Havnarmál*, the variety used in Tórshavn, the informant remarked that there is a tendency in Tórshavn to use the variant /-ir/ (he pronounced the letters *i – r* [i:jɛ.ɪ]) instead of /-ur/, pronounced *u – r* ([uɤɛ.ɪ]). Demonstrating the difference, he said: *Eitt undir ella eitt undur*, [ət'untʒɪ.ɪ ɛtla ət'untør], *tað eru tvær merkingar* '(an) *under* (under) and (an) *undur* (wonder), those are two meanings'. There is a slight distinction in the way the speaker utters the two focused words in this utterance, so that in the first instance what might be taken as representing the /-ir/ morpheme is pronounced with a non-back, slightly raised central unrounded vowel: [ɜɪ.ɪ], but the second instance has a back, more rounded vowel. But when the speaker starts to explain the meaning differences, pronouncing them apart from each other in the utterance, repeating them again and again, there seems to be very little difference between the final vowels for the two different lexemes, both being quite centralized as [untə.ɪ] or pronounced as [untɪ] with syncope. Another example which he mentions is the word *bilur* 'car', commenting that in Tórshavn people tend to use the /-ir/ variant, which he actually pronounces something like [pi:lə.ɪ], and when he is asked which variant he uses, he says: *Eg haldi at eg sigi* [pi:lɪ] 'I think that I say [pi:lɪ]', that is with syncope of the vowel, and then he sort of corrects himself, saying [pi:lə.ɪ].

This anecdote seems to show that although the speaker is conscious of the difference (as a result of the spelling norm) he does not have an underlying distinction between two non-low vowels before /-r/. However, he can make a distinction between unrounded and rounded central vowels or schwas.

## ICELANDIC CONSONANTS

This chapter gives an overview of the system of consonants in Modern Icelandic, starting with their phonetic description, and then moving on to discuss an analysis of their structural and systemic properties with the help of the element notation introduced in section 3.2.2.

### 6.1 AN OVERVIEW

An overview of the phonetic segments normally used in the broad phonetic transcription of Modern Icelandic is given in Table 6.1.

TABLE 6.1 Icelandic consonants

Manner of articulation		Place of articulation				
		Labial	Dental/ alveolar	Palatal	Velar	Glottal
Stops	Unaspirated	p	t	c	k	ʔ
	Aspirated	p <sup>h</sup>	t <sup>h</sup>	c <sup>h</sup>	k <sup>h</sup>	
Fricatives/ approximants	Voiced	v	ð	j/ɹ	ɣ	
	Voiceless	f	θ	ç	x	h
Nasals	Voiced	m	n	ɲ	ŋ	
	Voiceless	m̥	n̥	ɲ̥	ŋ̥	
Laterals	Voiced		l			
	Voiceless		l̥			
Trill	Voiced		r			
	Voiceless		r̥			

## 6.2 THE STOPS

Since all Modern Icelandic plosives are voiceless,<sup>1</sup> the burden of distinguishing between the historical fortis and lenis series is carried by aspiration, that is timing of voice onset with respect to the following vowel (postaspiration) or voice offset with respect to the preceding vowel (preaspiration), which can be interpreted as due to the presence of the H-element in the fortis series. The vocal tract closure shared by all plosives will be seen as the manifestation of the ʔ-element. We shall start in section 6.2.1 by discussing the places of articulation relevant for the Icelandic stops, devoting a special section (6.2.2) to the status of the dorsal (velar or palatal) places of articulation, returning in section 6.2.3 to the relation between the fortis and lenis series and their structural relations.

In Table 6.1 (as generally in this work), the lenis stops are represented as IPA [p], [t], [c], and [k], that is as normal voiceless plosives. Another older practice (see e.g. Guðfinnsson 1946, 1964; Gíslason and Thráinsson 1993) in representing these sounds is to transcribe them as voiceless lenes: as [p̥], [t̥], etc. Since the stops are inherently voiceless, there is little reason to look on the voicelessness as some sort of secondary characteristic as would be implied by the more complex notation.

## 6.2.1 Places of articulation

For each stop series, four supralaryngeal places of articulation are relevant, as shown in Table 6.1: *labial*, *dental*, *palatal*, and *velar*. Examples illustrating the place opposition for each series in initial position are given in (6.1):

- |       |   |   |
|-------|---|---|
| (6.1) | <i>par</i> [p <sup>h</sup> a:ɾ] ‘pair’,           | <i>bar</i> [pa:ɾ] ‘bar’                         |
|       | <i>tal</i> [t <sup>h</sup> a:ɿ] ‘talk, speech’    | <i>dal</i> [ta:ɿ] ‘valley’                      |
|       | <i>kjör</i> [c <sup>h</sup> æ:ɾ] ‘selection, lot’ | <i>gjör</i> [cæ:ɾ] ‘done’                       |
|       | <i>kör</i> [k <sup>h</sup> œ:ɾ] ‘old age’         | <i>göróttur</i> [kœ:rouhtɿɾ] ‘impure, feculent’ |

The places of articulation for the stops are fairly well represented by the IPA symbols used in Table 6.1. (Phonetic studies of consonantal articulation can be found in Einarsson 1927; Pétursson 1974; Löfkvist and Yoshioka 1981.)

The labial plosives have a normal labial character and their resonance characteristics can properly be represented by the U-element in co-catenation with stopness ([ʔ]) and release ([h]) for /p/: {U, ʔ, h}, with the H-element added to the fortis member of the oppositions, that is /p<sup>h</sup>/: {U, ʔ, h, H}.

The alveolar stops have a purely dental articulation, that is to say they are pronounced further to the front than, for example, the corresponding sounds of Danish or English, and their tonality can be represented simply with the A-element.

<sup>1</sup> Voicing in Modern Icelandic stops is rarely reported, but see Guðfinnsson 1946: 42–5 for early observations regarding voicing of stops after nasals.

The [c] in *kjör* is more velo-palatal than palato-alveolar, and [k] in *kör* can be simply characterized as velar. We will discuss the relation between velars and palatals in more detail in Section 6.2.2.

There is no reason to take the glottal element ʔ to be responsible for a phonemic unit or a distinctive place of articulation in the lexical phonological representation, since it does not participate as such in the phonotactic buildup of input forms, nor does it participate in morphophonemic patterning in inflection or word formation of the type described in Chapter 12 below. But, although there is little reason to posit /ʔ/ as a separate phoneme or a separate place of articulation for lexical representation, it is very common in speech as a sort of default onset to vowel-initial stressed syllables, as in shown in (6.2):

(6.2) *Hann er ASNI* [hanɛr'ʔastnɪ] / [hanɛ'rastnɪ]

The appearance of [ʔ] in this example is obviously dependent on context and post-lexical conditions, but the frequent use of the glottal stop in such surroundings shows that the 'stopness' element is in some sense present in the Icelandic phonological space or articulatory setting (see section 14.5 for a discussion of the function of glottal elements as boundary markers).

Another clear sign of the presence of the ʔ-element in the system is the glottalization and debuccalization of stop codas in words like *vegna* [vekna] 'because', *ofnar* [ɔpnar] 'radiators', and *regla* [rɛkla] 'rule'. These forms may be pronounced with a glottal onset or glide, something like [veʔkna], [ɔʔpnar], and [rɛʔkla]; and this goes further in a relatively recent development of debuccalization in a pronunciation variant called *höggmæli* 'chopped speech' where the supralaryngeal characteristics of the stops are deleted altogether, causing neutralization of the melodic character of plosives in coda position before /l/ and /n/. Thus variant pronunciations like [ʃɛʔna] beside the standard [ʃɛtna] for *hérna* 'here', [veʔna] beside [vekna] for *vegna* 'because', [ɔʔnar] beside [ɔpnar] for *ofnar* 'radiators', and [rɛʔla] beside [rɛkla] for *regla* 'rule', show that 'pure' glottal stop can appear independently for some speakers.

### 6.2.2 On palatals and velars

It should be noted that the relation between the velar and the palatal stop is somewhat special. There is clearly a phonemic opposition between palatal stops as in *kjör* [c<sup>h</sup>æ:ɾ] 'lot' and *gjör* [cæ:ɾ] 'done', and velar ones as in *kör* [k<sup>h</sup>æ:ɾ] 'old age' and *göróttur* [kæ:rouhtvɾ] 'impure, feculent'. The two places can be distinguished in element notation so that the velar tonality is the realization of a 'headless' construction: /k/ (cf. section 3.2.2 {\_, ʔ, h} (alternatively {@, ʔ, h}); /k<sup>h</sup>/: {\_, ʔ, h, H} ({@, ʔ, h, H}); whereas the palatals, also headless, are distinguished from the velars by the presence of the I-colour in operator position: /c/: {\_, I, h} ({@, I, ʔ, h}); /c<sup>h</sup>/: {\_, I, ʔ, h, H} ({@, I, ʔ, h, H}).

But although the distinction between palatals and velars is phonemic, they are in partial complementary distribution, and it is common for morphological paradigms to

show an alternation between a velar and a palatal stop, the latter typically occurring before front vowels, as shown in (6.3) for initial position:

- (6.3) *kúfur* [k<sup>h</sup>u:vʏʀ] ‘top’ – *kýfa* [c<sup>h</sup>i:va] ‘to make a top’  
*gull* [kʏtl] ‘gold’ – *gylla* [cɪtla] ‘to make golden’  
*koma* [k<sup>h</sup>ɔ:ma] ‘to come’ – *kemur* [c<sup>h</sup>ɛ:mʏʀ] ‘comes’  
*gos* [kɔ:s] ‘eruption’ – *gýs* [ki:s] ‘erupts’

A similar correlation between palatal and velar stops is found word-internally in examples like *taka* [t<sup>h</sup>a:ka]/[ta:k<sup>h</sup>a] ‘to take’ vs *takir* [t<sup>h</sup>a:cɪʀ]/[ta:c<sup>h</sup>ɪʀ] ‘take-SUBJUNCTIVE’, and between a voiced velar fricative or approximant and a palatal counterpart in paradigms like: *toga* [t<sup>h</sup>ɔ:ɣa] ‘to pull’ vs *toginn* [t<sup>h</sup>ɔ:jɪn] ‘stretched’ and *saga* [sa:ɣa] ‘story’ vs *segir* [seijɪʀ] ‘says’. To account for patterns like these it has been suggested that Modern Icelandic has an active rule of palatalization (see, e.g., Wurzel 1980; Rögnvaldsson 1993: 54–5), but it is not clear that the alternation should be analysed in purely phonological terms in Modern Icelandic. In many cases the palatalizing alternation is phonetically opaque, as e.g. in *koma* [k<sup>h</sup>ɔ:ma] ‘to come’ vs *kæmi* [c<sup>h</sup>ai:mi] ‘come-PAST.SUBJUNCTIVE’ and *kátur* [k<sup>h</sup>au:tyʀ] ‘happy’ – *kæti* [c<sup>h</sup>ai:ti] ‘happiness’, where the following palatalizing sound is not a truly front vowel, rather the diphthong [ai]. There is a historical explanation for the palatal character of the stop in *kæti*, etc. The [ai] represented by *æ* in the spelling was a front monophthong [æ:] in Old Icelandic, but the present situation makes the phonological motivation less compelling, since the I-element would have to ‘jump’ over the first constituent of the diphthong. It should also be noted that vowel frontness alone (i.e. the presence of the I-element) is not sufficient for palatalization to take place, since the front rounded vowels [ʏ] and [ø] do not cause fronting in words like *kunna* [k<sup>h</sup>ʏn:a] ‘to know how’, *köttur* [k<sup>h</sup>œtyʀ] ‘cat’, *gulur* [kʏ:ly:ʀ] ‘yellow’, *göltur* [kœltyʀ] ‘boar’.

Furthermore, there are examples showing lack of palatalization before front unrounded vowels, for example in forms like *elskendur* [ɛlskentyʀ] ‘lover-PL’ (cf. *elskandi* [ɛlskanti] ‘lover-SG’) and *eigenendur* [ei:ɣentyʀ] (\*[ei:jentyʀ]) ‘owners’, (cf. *eigandi* [ei:ɣanti] ‘owner’), *hagyrðingur* [ha:ɣɪrðɪŋkʏʀ] ‘versifier’ (cf. *hagorður* [ha:ɣɔrðʏʀ] ‘skilled in versification’). In these examples the vocalic alternation between a front and a non-front vowel does not affect the preceding velar in the plural form. Similarly in compounds like *fúkyrði* [fu:kiʀði] ‘obscenities’ (literally ‘foul smelling words’) palatalization does not take place in spite of the fact that the word structure is not particularly transparent, since the word *fíki* [fu:cɪ], acc. *fíka* [fu:ka] ‘foul smell’, which supplies the first component is very rare. It is thus clear that to the extent that palatalization is active in MI, it is not phonetically transparent in the modern language.

In Old Icelandic, palatalization was caused by any front vowel. Thus in the earlier language *køʀ* [c<sup>h</sup>ør] ‘lot, selection’, with a front rounded vowel and a palatal plosive, was opposed to *kʀ* [k<sup>h</sup>ør] ‘old age, disablement’ with a back vowel and a velar plosive. But after vowel changes, the fronting of old short /ɔ/ and merger with /ø/ in MI /æ/, the palatal vs velar opposition has taken over the distinctive function in the

modern forms *kjör* [c<sup>h</sup>œ:ɾ] ‘lot’ vs *kör* [k<sup>h</sup>œ:ɾ] ‘disablement’, since, as we have seen, there is no palatalization before front rounded vowels in the modern language.

However, it is not the case that there is no truly phonological palatalization in MI. As shown by the pronunciation of loans such as those in (6.4), there is a tendency for dorsals to have a palatal character before front unrounded vowels. But interestingly, there is a difference in the palatalizing effect of the vowels, since palatals are more likely to appear before /i/ and /ɪ/, but velars are allowed before /ɛ/, /ei/ and /ai/:

(6.4) Palatal

<i>gítar</i> [ci:taɾ] ‘guitar’	<i>kíper</i> [c <sup>h</sup> i:peɾ] ‘goalkeeper’
<i>Gínea</i> [ci:nea] ‘Guinea’	<i>kíkir</i> [c <sup>h</sup> i:ciɾ] ‘binoculars’
<i>gilli</i> [ciɪ:lɪ] ‘feast’	<i>kikk</i> [c <sup>h</sup> ɪhc] ‘kick, pleasure’

Velar

<i>gettó</i> [kɛhtou] ‘ghetto’	<i>Kennedy</i> [k <sup>h</sup> ɛnɛti] ‘the family name’
<i>geim</i> [kei:m] ‘game, party’	<i>keis</i> [k <sup>h</sup> ei:s] ‘case, problem’
<i>gæd</i> [kai:t] ‘guide’	<i>kæi</i> [k <sup>h</sup> aijɪ] ‘quay, wharf’

These examples suggest that this ‘second’ palatalization is in fact phonologically regular in MI before [i] and [ɪ], that is before ‘pure’ I-sounds (either with I as head {I} in /i/ or as an operator {I.\_} in /ɪ/). But it is not obligatory before mixed vowels, that is before /ɛ/ ({I, A}), which patterns with /ai/ in not causing palatalization. And we have noted more than once that there is no palatalization before rounded front vowels /y/ ({I, A, \_}, cf. *gulur* [kʏ:lʏɾ] ‘yellow’) or /œ/ {I, A, U}, cf. *göfugur* [kœ:vʏʏɾ] ‘noble’).

It should be noted that although the data in (6.4) show that palatalization before mixed I-vowels is not phonetically regular or obligatory, forms like *gettó* and *geim* may also be pronounced with palatal consonants, that is as [cɛhtou] and [cei:m]. This tendency, which is clearly less regular than palatalization before /i/ and /ɪ/ in *gilli* and *gítar*, but seems to gain ground with increasing frequency of the forms in question, is most likely some sort of ‘analogy’ or lexical spreading of the phonotactic principle, valid in the traditional vocabulary, for front unrounded vowels to be preceded by palatals, for example in words like *geta* [cɛ:ta] ‘to be able’ and *geyma* [cei:ma] ‘to store’. It is therefore possible that there are two types of palatalizing constraints, one postlexical and regular before pure I-vowels, and the other one lexical or phonotactic. The tendency towards palatalization in these latter words can therefore be seen as a statistical extension of the frequency of the phonotactic (or morphophonemic) regularity shown in paradigms of the sort illustrated in (6.3). And in fact, there is also an inverse trend, of reducing the frequency of palatal stops in these surroundings, since some speakers pronounce forms like *kemur* ‘comes’ and *gefa* ‘to give’ with purely velar stops, as [k<sup>h</sup>ɛ:mʏɾ] and [kɛ:va].

In any case, there is no doubt that the palatality of stops is phonemic, at least outside the ‘reach’ of pure I-vowels, and can be preserved in opaque outputs. This is shown by paradigms like those in (6.5):

- (6.5) *dekk* [tɛhk] ‘tyre’, *dekkið* [tɛhcɪθ] ‘the tyre’, *dekkjum* [tɛhcɪm] beside [tɛhkɪm] ‘tyre-DAT.PL’, *dekkja* [tɛhca] ‘tyres-GEN.PL’  
*hringur* [ɾɪŋkʏɾ] ‘circle’, *hringir* [ɾɪŋcɪɾ] ‘circles’, *hringjum* [ɾɪŋcɪm] (beside *hringum* [ɾɪŋkɪm]) ‘circle-DAT.PL’

In these paradigms, the palatal stop, which is ‘phonologically regular’ in forms with /ɪ/ (*dekkið* [tɛhcɪθ], *hringir* [ɾɪŋcɪɾ]) has been generalized into forms with other vowels: *dekkjum* [tɛhcɪm], *dekkja* [tɛhca], *hringjum* [ɾɪŋcɪm]. But this analogy is not regular, since there are alternate forms like *dekkum* [tɛhkɪm] and *hringum* [ɾɪŋkɪm]. We also note that there are no instances of the palatal allomorph being generalized into monosyllabic forms, giving something like \*[tɛhc] or \*[ɾɪŋc] for *dekk* ‘tyre-ACC’ and *hring* ‘circle-ACC’. So there seems to be some sort of (phonotactic) restriction to the effect that the palatals should be followed by vowels, and are thus excluded from occurring in word final position.

Another instance of palatals occurring in opaque surroundings is in connected speech forms like the one in (6.6):

- (6.6) *Ég held ég elski hann* [jɛhɛltjʰɛlscaŋ] ‘I think I love him’

In this example, the final vowel in *elski* ‘love-SUBJUNCTIVE’, which in a careful style has the form [ɛlsɪ], with a palatal before the ending /ɪ/, is deleted, leaving the palatal consonant without its trigger being visible in the output.

As can be seen, Icelandic lacks the palato-alveolar sounds [ʃ] and [tʃ] (i.e. with the I in head position), which both occur in Faroese, as in *sjev* [ʃei:] ‘seven’ and *hjá* [tʃɔa] ‘with’ *tjaldur* [tʃaltɔɹ] ‘oystercatcher’. However, some signs can be found of an emergent change in the pronunciation of Icelandic words like *tjald* ‘tent’ and *tjón* ‘damage’, which are indicative of an innovation that may lead to a new place (and manner) of articulation (see Karlsson 2007). The traditional pronunciation of these forms has been transcribed in terms of an aspirated dental stop [tʰ] followed by [j], as in [tʰjalt] and [tʰjou:n]. The new way of pronouncing these forms involves some sort of affrication of the stop. In Karlsson’s analysis, such forms, for some speakers at least, are to be transcribed as [tsʰjalt], that is with an aspirated dental or alveolar (rather than palato-alveolar) affricate followed by a glide.

### 6.2.3 The fortis–lenis opposition

The columns in (6.1) (*par* [pʰa:ɾ] ‘a pair’ vs *bar* [pa:ɾ] ‘carried’, *tal* [tʰa:ɾ] ‘speech’ vs *dal* [ta:ɾ] ‘valley’, etc.) show that (post-)aspiration is distinctive in plosives, and, referring to the elements introduced in section 3.2.2, this opposition can be captured in terms of the presence or absence of the H-element (within the Chomsky–Halle paradigm, in terms of [spread glottis]). According to this, the fortis stops are the marked members of the opposition, having more structure ( /p/: {U, ʔ, h} vs /pʰ/: {U, ʔ, h, H}, /t/: {A, ʔ, h} vs /tʰ/: {A, ʔ, h, H}, etc.). With reference to the typology of stop systems, the fortis–lenis opposition is then based on the presence of H in the fortis



stops, rather than, for example, the presence of L or voicing in the lenis stops as it is in many other systems (cf. e.g. Cyran 2003: 28–33).

But this clear opposition between fortis (hard) and lenis (soft) consonants is only fully realized before a vowel and in the onset of word initial syllables, since there are complications in other environments. First, in the most common variety called ‘soft speech’ the fortis vs lenis (or hard vs soft) opposition is largely neutralized intervocalically in favour of the lenis variant. Thus forms like *tapa* [t<sup>h</sup>a:pa] ‘to lose’, *pata* [p<sup>h</sup>a:ta] ‘to gesticulate’, *sækja* [sai:ca] ‘to fetch’, *taka* [t<sup>h</sup>a:ka] ‘to take’ have unaspirated stops in the majority dialect. It is only in the so called ‘hard speech’, spoken mainly in the north, that these forms have aspirates in the intervocalic position: [t<sup>h</sup>a:p<sup>h</sup>a], [p<sup>h</sup>a:t<sup>h</sup>a], [sai:c<sup>h</sup>a], [t<sup>h</sup>a:k<sup>h</sup>a]. Conversely lenis stops do not by and large occur intervocalically in the native vocabulary in this variety. It will be shown in Chapters 9 and 13 that disyllabic forms like these form stress feet, and thus the intervocalic stops can be characterized as foot internal onsets.

The question arises whether we should see this neutralization of the fortis–lenis opposition as phonologically conditioned or systematic in foot-internal position, in the soft speech variety in favour of the lenis stops, and in the hard variety in favour of the fortis ones. Thus the difference between the hard and the soft varieties might be that the former does not allow aspirated onsets within the foot (or only at the beginning of a word), whereas the latter one does. The constraint could be formulated as some sort of suppression of the H-element in the word (or foot) internal position (see Jónsson 1994; Hansson 2003). Such a constraint would come close to being true of the situation in the soft variety, since it is valid for most native monomorphemic words like *tapa* [t<sup>h</sup>a:pa] ‘lose’, *pata* [p<sup>h</sup>a:ta] ‘gesticulate’, etc. For the hard variety this suppression of postaspiration would then not apply, allowing [t<sup>h</sup>a:p<sup>h</sup>a] for *tapa*, [p<sup>h</sup>a:t<sup>h</sup>a] for *pata*, etc. And, in fact, it might be argued that the fortis–lenis opposition is not neutralized in this variety, since ‘hard’ speakers can have unaspirated foot internal stops in loans like *radar* [ra:taɾ] ‘radar’.

But there are interesting exceptions from the generalizations implied by this sort of analysis. In the first place, internal aspiration is allowed in the soft variety in some morphologically complex forms or compounds: words like *ákafur* [au:k<sup>h</sup>afʏɾ] ‘eager’ *ítök* [i:t<sup>h</sup>œ:k] ‘influence’, *sautján* [sœy:t<sup>h</sup>jaun] ‘seventeen’, *þrjátíu* [θɾjau:t<sup>h</sup>ijʏ] ‘thirty’ are most commonly pronounced with aspiration, even among native speakers of the soft variety. This could perhaps be seen as due to loyalty to aspiration in the input of second constituents which may occur as separate words (e.g. the verb *taka* [t<sup>h</sup>a:ka] ‘to take’ in the case of *ítök* and the numeral *tíu* [t<sup>h</sup>i:jʏ] ‘ten’ in the case of *þrjátíu*); hence the aspiration. But the morphological complexity of many of these forms is quite untransparent, for example neither the *-kafur* of *ákafur* nor the *-tján* of *sautján* are easily identifiable as separate morphemes. And there would seem to be no morphological complexity in loans or foreign words such as *ópera* [ou:p<sup>h</sup>era] ‘opera’, *tópas* [t<sup>h</sup>ou:p<sup>h</sup>as] ‘topaz’ and *Ítalía* [it<sup>h</sup>ali:ja] ‘Italy’, which are normally pronounced with aspiration by ‘soft’ speakers (although unaspirated forms are known to occur in some versions of the soft speech). It is thus not clear that the fortis–lenis opposition is after all neutralized internally in the soft variety, since near minimal pairs like *tópas*

[t<sup>h</sup>ou:p<sup>h</sup>as] ‘topaz’ vs *tóbak* [t<sup>h</sup>ou:pak] ‘tobacco’ (both loans) can be found. And conversely, we have seen that in the hard speech variety, unaspirated stops occur, in loanwords like *radar* [ra:taɾ] ‘radar’, which forms a minimal pair with *ratar* [ra:t<sup>h</sup>aɾ] ‘finds the way’.

The internal opposition found in loanwords and morphologically complex words can be interpreted in two ways. If we assume morphological complexity for words like *ítök* [i:t<sup>h</sup>œ:k] ‘influence’, that is something like /i+t<sup>h</sup>œk/ with a morphological boundary, and that they are exempt from the ban on aspirates, it might be suggested that loans like *tópas* are given some sort of special status, a sort of ‘pseudo-morphology’, to account for their aberrant behaviour. The other interpretation would be that the apparent ban against aspiration in word internal onsets is not valid as a phonological generalization, and the (relative) lack of aspiration in these environments until the introduction of the loans is an accidental gap (in the sense that the system allows for the opposition, but there are no lexical forms where it is put to the test).

It will be shown in section 13.1.2 below that certain patterns in word stress and umlaut alternations suggest that some sort of pseudo-morphology can be responsible for the secondary stress in words like *‘ambassaðor* ‘ambassador’ and *‘almanak* ‘almanac’. And in the latter example, only the last syllable or stress foot takes part in the u-umlaut alternation, giving the plural form *almanök* [‘alma:nœ:k] ‘almanac-PL’ with the same pattern as a compound like *matargat* ‘glutton; literally: food hole’, which has the plural form *matargöt* [‘ma:taɾkœ:t], that is with an umlaut only in the second part of the compound. But it would seem to be wise to limit the use of such a powerful tool to the more clearly motivated cases. Assuming pseudo-morphology for ‘soft speech’ forms with aspiration, as for example *tó#pas* ‘topaz’ and *Í#talía* ‘Italy’ would seem to be stretching things a bit far. It is not clear that the *tó-* and *-pas* of *tópas* have any independent *raison d’être* as pseudo-morphs. (In the case of a form like *almanak*, both the stress pattern and the umlaut pattern suggest the pseudo-morphology. It would seem as if the burden of proof must be carried by proponents of pseudo-morphology rather than a more straightforward phonological account). Another more plausible solution would be to say simply that the absence in the inherited vocabulary of word-medial aspirated stops in the soft variety and unaspirated stops in the hard variety are accidental gaps.

According to Hansson (2003: 63), the emergence of the intervocalic contrast between hard and soft consonants due to the incorporation of loanwords poses a problem for the strict interpretation within Optimality Theory of the ‘Richness of the Base’ principle (ROTB). In Hansson’s view, words like *víbrafónn* ‘vibraphone’, pronounced in the hard variety as [vi:prafoutn] with unaspirated [pr] occurring in a context ‘where only aspirated [p<sup>h</sup>] is otherwise allowed’ breaks the pattern in a way which is not allowed by ROTB. And obviously forms like *ópera* and *tópas* pose parallel problems in the soft dialect. What the loanword phonology seems to show is that there are accidental gaps in both dialects.

There is an inherited opposition between traditional fortis and lenis consonants after short vowels (i.e. in historical geminates). But here the aspiration of the fortis plosives takes the form of preaspiration, as shown in (6.7):

- (6.7) *kobbi* [k<sup>h</sup>ɔp:i] ‘young seal’      *koppi* [k<sup>h</sup>ɔhpɪ] ‘chamber-pot-DAT’  
*haddur* [hat:ɣɪ] ‘hair’      *hattur* [hahtɣɪ] ‘hat’  
*bagga* [pak:a] ‘bundle-ACC’      *bakka* [pahka] ‘bank-ACC’

A further environment (also following short vowels) where this opposition is valid is before /l/ and /n/, as shown in (6.8):

- (6.8) *eḥla* [ɛpla] ‘to strengthen’      *epla* [ɛhpla] ‘apples-GEN’  
*alla* [atla] ‘all’      *Atla* [ahtla] ‘a man’s name’  
*sagna* [sakna] ‘stories-GEN’      *sakna* [sahkna] ‘to miss’

The pattern shown in (6.7) and (6.8) is consistent and without dialect differences. (The phonological analysis of preaspiration will be discussed in detail in Chapter 11 below.)

### 6.3 THE FRICATIVES

Table 6.1 (p. 98) shows a pair of voiced and voiceless fricatives for every place of articulation except the glottal place, implying a fairly regular correlation based on the presence or absence of H (or Spread Glottis). But when it comes to phonotactics and distribution, the function of the voiced–voiceless opposition in the fricatives is much more limited than implied by the listing in Table 6.1, even more so than that of the fortis–lenis opposition in the stops. The following examples exhaust the possibilities for word initial oppositions based on voicing in fricatives:

- |       |          |                            |                             |
|-------|----------|----------------------------|-----------------------------|
| (6.9) |          | Voiceless                  | Voiced                      |
|       | Labial   | <i>fá</i> [fau:] ‘obtain’, | <i>vá</i> [vau] ‘calamity’, |
|       | Dental   | <i>há</i> [θau:] ‘then’    | —                           |
|       | Sibilant | <i>sá</i> [sau:] ‘saw’     | —                           |
|       | Palatal  | <i>hjá</i> [çau:] ‘by’     | <i>já</i> [jau] ‘yes’       |
|       | Glottal  | <i>há</i> [hau] ‘high’     | —                           |

As can be seen, the only two places where there is an actual opposition initially are the labial and the palatal series, and even in these cases it is, as we shall see, doubtful whether the voiced fricatives are to be classified as such, rather than as approximants.

As regards places of articulation, the analysis is fairly straightforward. The labials, /f/ and /v/ are labio-dental, but the articulation of the /v/ is often quite weak making it close to being an approximant, even in initial position. The articulation is also not as distinctly labiodental as for example in English, and may at times be bilabial. The normal symbol used in the transcription of this sound is [v], but given these circumstances, [ʋ] might also be used.

The [θ] is dental, rather than alveolar, but the articulation of /s/ may vary from speaker to speaker. The most typical articulation of /s/ would seem to be alveolar with additional turbulence caused by dental friction. The voiceless dorsal fricative in *hjá* is

palatal, and so is its voiced counterpart, but like the /v/, the /j/ may have a rather weak articulation, so that it could be classified as an approximant, rather than a fricative.

Icelandic has no other sibilants than /s/, either voiceless or voiced ([ʃ], [z], or [ʒ]). Even in environments most conducive to voicing; there are therefore no reports of voicing of /s/ intervocalically, for example in forms like *vasi* [va:sɪ] ‘pocket’. The only instances of voiced sibilant articulation are in cases of the frication of nasals before voiceless fricatives, in forms like *dansa* ‘to dance’, which has the form [tanˈsa] in a very clear utterance style. In more relaxed styles the nasal is weakened, in which case the sibilant melody may be spread into the coda, forming a voiced nasalized sibilant: [taʒsa]. The final stage of this weakening of the nasal is a pronunciation with a long nasalized vowel in an open syllable: [tã:sa].

Conspicuously absent from the initial position is the voiceless velar fricative [x]. It only occurs dialectally in the so-called *hv*-pronunciation of words like *hvalur* [xɑ:lʏr̥] / [xˈwɑ:lʏr̥] ‘whale’, which in most varieties has a stop: [kʰva:lʏr̥]. But it might be said that the lack of an initial velar fricative in the standard dialect is compensated for by the palatal fricative in *hjá* [çau] ‘by’ and a number of other examples: *hjarta* [çarta] ‘heart’, *hjól* [çou:] ‘wheel’, etc. Thus, in the dorsal region, the I-coloured fricative might be taken to be the basic one in Modern Icelandic onsets.<sup>2</sup>

Voiceless fricatives are common word-internally, although history limits the distribution to voiceless environments. Thus devoicing before historically fortis stops and /s/ gives forms like *hægt* [haɪxt] ‘slowly’ and *lags* [laxs] ‘tune-GEN.SG’, related to forms like *hægur* [hai:ɣʏr̥], ‘slow’ *laga* [la:ɣa] ‘tunes-GEN.PL’, with voiced correspondents. And, due to final devoicing, voiceless [x], [θ], and [f] are quite common in word final position, as shown by examples such as *lag* [la:x] ‘tune-ACC.SG’, *hæg* [hai:x] ‘slow-FEM.SG’, *bauð* [pœy:θ] ‘invited’. In many cases these voiceless fricatives alternate with voiced fricatives or glides in final devoicing, for example in *dagur* [ta:ɣʏr̥] ‘day-NOM’ – *dag* [ta:x] ‘day-ACC’, *gefa* [çɛ:va] ‘to give’ – *gaf* [ka:f] ‘gave’, *bjóða* [pjou:ða] ‘to offer’ – *bauð* [pœy:θ] ‘offered’. There are also regular patterns of devoicing of fricatives before certain voiceless or fortis consonants: *gafst* [kafst] ‘gave’, *dags* [taxs] ‘day-GEN.SG’, *blíðka* [pliθka] ‘pacify’ (cf. *blíður* ‘friendly’).

These relations suggest neutralization and complementary distribution with voicing in intervocalic environments and voicelessness in some other environments. In fact, in some respects, this is reminiscent of the situation for the stops; that is, with alleged word-internal neutralization of the fortis–lenis opposition. Thus it might be said that the voiced–voiceless opposition is neutralized word-internally between vowels so that only voiced fricatives (or glides) occur. But, as in the case of the stops, loanwords may fill the gaps left by historical development, and there are near minimal pairs such as *kaþólskur* [kʰɑ:θoulskʏr̥] ‘catholic’ vs *kaðall* [kʰɑ:ðatʰ] ‘rope’ and *safarí* [sa:fari] ‘safari’ vs development *safi* [sa:vɪ] ‘juice’, which suggest that the absence of voiceless

<sup>2</sup> In fact, this is reminiscent of the situation in standard German, where a voiceless velar fricative is absent in word initial position, see e.g. Eisenberg (1994: 354).

fricatives in intervocalic position in the traditional vocabulary is accidental from the synchronic point of view.

In some cases the voiceless fricatives [f] and [x] alternate with stops in related forms, for example as in *veikt* [veikt] ‘weak-NEUT’, corresponding to *veikur* [vei:kʏɾ] ‘weak-MASC’, and *hlauptu* [lœyftʏ] ‘run-IMP’, cf. *hlaupa* [lœy:pa] ‘to run’. Here the stop, suggested by the spelling and morphological relation, becomes a fricative before the /t/. (See section 11.2.2 for further discussion of these phenomena.) Similarly, forms spelled with *kt* or *pt* are pronounced with fricatives, and the letter *x* in Icelandic spelling normally represents [xs], as shown by forms like *skipta* [sciɬta] ‘change’, *rækt* [raikt] ‘cultivation’, and *vaxa* [vaxsa] ‘to grow’, although a variant pronunciation with a stop, [vaksə], is gaining ground (see Árnason 2005a: 416–17).

The Icelandic /h/ is a pure laryngeal fricative without pharyngeal or velar coarticulation. It does not occur word-internally except in compounds, like *ó#hæfur* [ou:.haivʏɾ] ‘incompetent’ or *hús#hald* [hu:s.halt] ‘housekeeping’, where the second part of the compound starts with /h/. But the question arises as to the relation of this initial /h/ to preaspiration, in forms like *hattur* [hahtʏɾ] ‘hat’ or *opna* [ɔhpna] ‘to open’, which is sometimes seen as forming a full word internal segment. (For a discussion of this issue, see Chapter 11.)

Looking generally at word-internal environments, we see that the distribution of voiced fricatives in fact seems rather restricted, basically only occurring intervocalically, and they may be rather weakly pronounced. Thus *gefa* [ce:va] ‘give’ and *taða* [tʰa:ða] ‘hay’ show, respectively, a labiodental and a dental fricative, which are sometimes pronounced as approximants (see Helgason 1991). In the palatal region [j] (rather than [ɟ] denoting a true fricative) has been used to transcribe forms like *bogi* [pɔiji] ‘bow-NOM.SG’, *Hugi* [hyji] ‘a man’s name-NOM.SG’, *daginn* [taijin] ‘day-DAT.SG.DEF’ and *lögin* [lœyjin] ‘law-NOM.PL.DEF’, and it seems in fact that this is appropriate, since, for example, a form like *daginn* rhymes with *bæinn* [paijin], where the [j] is a glide historically inserted in hiatus after [ai].

This opens up the question, mentioned above, of how we should analyse the initial sound in *já* ‘yes’, *ég* [jɛ:x] ‘I’, *jökull* [jœ:kʏtl] ‘glacier’, etc. The traditional view has been that this is indeed a fricative, which should then strictly speaking be transcribed as [ɟ], and it seems that it may well be uttered as such. But in many instances it also has a fairly weak articulation, more like a glide or approximant, and, as mentioned above, the labial fricative [v] is often uttered in a similar way to an approximant, even in initial position.

Thus, all in all, it seems that the relation between voiced and voiceless fricatives in Modern Icelandic is not simply an allophonic relation based on voicing. The weakness of the articulation of the voiced sounds makes them at times more like approximants, and they are very easily deleted intervocalically in natural speech, making pronunciations like [ta:ɾ] for *dagar* ‘days’, and [ta:ʏɾ] for *dagur* ‘a day’ quite common, beside the more distinct forms [ta:ɣaɾ] and [ta:ɣʏɾ]. This tendency is reminiscent of the fate of intervocalic fricatives in Faroese, which have mostly disappeared, as described in sections 5.4.1 and 7.3.2.

## 6.4 THE SONORANTS

Examples illustrating nasals in initial and medial position are to shown in (6.10):

(6.10)	Initial onset	Internal onset	Coda
	<i>matur</i> [ma:tʏɾ] ‘food’	<i>koma</i> [koɔ:ma] ‘to come’	<i>lamb</i> [lamp] ‘lamb’
	<i>naut</i> [noey:t] ‘bull’;	<i>kona</i> [koɔ:na] ‘woman’	<i>land</i> [lant] ‘land’
—	—	—	<i>lengi</i> [leɪŋɕɪ] ‘long-ADV’
—	—	—	<i>langur</i> [laʊŋkʏɾ] ‘long-MASC’

As can be seen, the only ‘independent’ places of articulation in the nasals are the dental and labial ones. Palatal and velar nasals only occur in coda position before homorganic stops. But the inventory of phonetic types is multiplied by two by a voicing correlation, which gives every voiced sonorant a voiceless counterpart. Examples showing voiceless nasals are shown in (6.11):

(6.11)	a. Initial onset	b. Coda
	<i>hnakkur</i> [ŋahkʏɾ] ‘saddle’	<i>klumpur</i> [k <sup>h</sup> lʏmpʏɾ] ‘lump’
		<i>vanta</i> [vaŋta] ‘to need’
		<i>banka</i> [paʊŋka] ‘to knock’
		<i>banki</i> [paʊŋɕɪ] ‘bank’

As suggested by the spelling and the morphophonemic relations, the voiceless nasals, like many of the voiceless fricatives discussed above, have a ‘history’ or morphological background of contact with some sort of aspiration or voicelessness: fortis stops, or simply /h/ as a phoneme. Thus the [ŋ] in *hnakkur* derives from the fusion of /h/ (< Germanic /x/) and /n/. (One of the consequences of this is that there are no voiceless sonorants functioning as internal onsets following open syllables in morphologically simplex words in the traditional vocabulary, simply because /h/ only occurs traditionally in word initial position.)<sup>3</sup> The voiceless nasals in coda position in (6.11b), in forms like *klumpur*, *vanta*, *banka*, etc., are due to the spreading of voicelessness (H or ‘spread glottis’) from the following fortis plosives, as suggested

<sup>3</sup> According to some scholars there is some sort of ‘underlying’ /h/ in clusters like /hr/ and /hn/, which may even show surface effects in pronunciations like [hɣɛhpɑ] (Jón Axel Harðarson p.c.). An argument which has been put forward in this context is the fact that [l] in *hlaer* [l̥ai:ɾ] ‘laughs’, [ɾ] in *hraun* [ɾ̥ey:n] ‘lava’, and [ç] in *hjálpa* [çauɭpa] ‘to help’ may alliterate with [h] in *honum* [hɔ:nʏm] ‘him’ (see e.g. Thráinsson 1981). But this is not conclusive, since, as argued in Árnason (1991: 12–22), equivalence classes in alliteration and rhyme do not necessarily imply structural identity in the linguistic system. Since the rules for alliteration reflect an old tradition, it is possible to look on the equivalence of /l̥/, /ç̥/, and /h/ as part of the poetic system, rather than the linguistic one (cf. Árnason 1991: 14).

by the spelling. Morphophonemic patterning in forms like *lint* [lɪnt] ‘soft-NEUT’, from *linur* [lɪ:nʏr] ‘soft-MASC’ reflect the same history.

There is basically only one lateral place of articulation in Icelandic; both the voiced and voiceless variant are normally alveolar, as shown in (6.12):

(6.12)	Voiced	Voiceless
	<i>laða</i> [la:ða] ‘to allure’	<i>hlaða</i> [ɭa:ða] ‘to load’
	<i>tala</i> [tʰa:la] ‘to speak’	
	<i>valda</i> [valta] ‘to cause’	<i>valta</i> [vaɭta] ‘to roll, to press’
	<i>úlfur</i> [ulʏʏr] ‘wolf’	<i>hjálpa</i> [çauɭpa] ‘to help’
	<i>helgur</i> [hɛlkʏr] ‘holy’	<i>háлка</i> [hauɭka] ‘slipperiness’

In both initial and internal onsets, as in *laða* and *tala*, the lateral is alveolar, and the same is true in coda position, as shown in by the examples *valda*, *úlfur*, and *helgur*. But this lateral may be velarized in forms like *belgdi* [pɛɭtɪ] ‘inflated’ and *sigldi* [sɪɭtɪ] ‘sailed’. Here the spelling reflects the morphophonemic or historical source of the velarization in a velar obstruent, which appears in related forms like *belgur* [pɛlkʏr] ‘balloon, ball’ and *sigla* [sɪkla] ‘to sail’.<sup>4</sup>

Minimal pairs like *laða* [la:ða] ‘to allure’ and *hlaða* [ɭa:ða] ‘to load’ and *valda* [valta] ‘to cause’ vs *valta* [vaɭta] ‘to roll, to press’ suggest, as in the case of nasals, that there is a phonemic distinction between voiced and voiceless laterals. But the spelling again reflects the historical origin of the devoicing from an historical /h/ in *hlaða*, and a spread of devoicing from the fortis stop in the case of *valta*.

The trill behaves similarly regarding voicing, as can be seen in (6.13):

(6.13)	Voiced	Voiceless
	<i>raða</i> [ra:ða] ‘to arrange’	<i>hraða</i> [ɾa:ða] ‘to speed up’
	<i>marga</i> [marka] ‘many-ACC’	<i>marka</i> [maɾka] ‘to mark’

And once more the spelling reflects the origin as due to devoicing or spreading of H in contact with /h/ and fortis stops.

The devoicing or spreading of H into coda consonants from the fortis plosive is not regular in all dialects. There is a variant pronunciation, so called ‘voiced pronunciation’, with voiced sonorants before an aspirated stop in forms like *klumpur*, *vanta*, *banka*, and *hjálpa*: [kʰɪmpʰʏr], [vantʰa], [pauŋkʰa], and [çauɭpʰa]. The geographical spread (although it is more limited) of this variant is similar to that of the ‘hard’ variety which has aspiration in internal onsets, for example *láta* [lau:tʰa] ‘to let’. The structural relations between these phenomena and their relation to post- and preaspiration will be further discussed in section 11.2.4 below.

<sup>4</sup> In both cases an originally voiced fricative [ɣ], has become a stop in contact with the lateral (see Árnason 1990).

## 6.5 SUMMARY: THE CLASSES OF CONSONANTS AND THEIR ELEMENT ANALYSIS

The MI consonants can be analysed with the help of the inventory of elements introduced in section 3.2.2.<sup>5</sup> As has already been shown in sections 6.2.2 and 6.2.3 above, the tonality elements I, A, and U, which are most obviously associated with vowels, can also be used to represent resonance properties of consonants, corresponding to places of articulation like labial, dental, or velar. To account for consonantal properties associated with manner of articulation, such as stopness or frication, the elements, ʔ ('edge, acoustically corresponding to abrupt and sustained drop in overall amplitude but in articulation to occlusion in oral cavity') can be used to denote stopness, and h ('noise, acoustically corresponding to aperiodic energy in articulation associated with narrow structure producing turbulent airflow') can be used to denote frication (cf. e.g. Harris 1996: 314; Cyran 2003: 17).

The labial consonants are in general characterized by the presence of U and the dental ones by A. When it comes to the dorsal region, as shown in section 6.2.2, the I-element seems to be appropriate for the palatal articulation, and assuming that the 'headlessness' introduced above (see section 3.2.2 for discussion and section 4.1.3 for an application of this mechanism in vowels) can be used to represent the difference between dorsals and other consonants. We would then assume that the velar place of articulation is the realization of bare 'source elements' functioning as operators, that is {\_, ʔ, h} for the lenis /k/. This amounts to allotting velar articulation the function of the unmarked place in the Icelandic tonality part of the consonantal system. For the palatals, I joins the source elements, to give {\_, I, ʔ, h} for the lenis /c/. It should be noted, however, that an important prerequisite for this is that to the extent that the debuccalized glottal stop itself is a part of the system, it can be represented as a headed ʔ-construction: {ʔ} with no operator elements.

The manner characteristics of the stops are thus represented with the help of the elements ʔ and h. Since all Icelandic stops are released and accompanied by some aperiodic energy, the h-element seems to be essential in all stops. But the voice onset time (VOT) lag in the fortis stops can be interpreted as being due to the presence of the H-element ('high tone: raised pitch on vowels; VOT lag (aspiration) in obstruents, corresponding to stiff vocal chords', see section 3.2.2).

In accordance with this, we can represent the system of stops in the manner shown in (6.14):

<sup>5</sup> The account given here involves some revisions from what is suggested in Árnason (2005a: 66–71). And in fact, as we shall see, there are still some unclear and unresolved issues which will have to wait for a more thorough analysis and investigation than there is room for in this work.



(6.14)	Stops	
	fortis	lenis
	$p^h = \{U, \varnothing, h, H\}$	$p = \{U, h, \varnothing\}$
	$t^h = \{A, \varnothing, h, H\}$	$t = \{A, h, \varnothing\}$
	$c^h = \{\_, I, \varnothing, h, H\}$	$c = \{\_, I, h, \varnothing\}$
	$k^h = \{\_, \varnothing, h, H\}$	$k = \{\_, \varnothing, h\}$
	$\varnothing = \{h, \varnothing\}$	

The lenis members of the opposition are the unmarked ones in lacking the H element. And since all MI stops are totally voiceless, there is no need for the L-element ('low tone: lowered pitch on vowels; VOT lead (full voicing) in obstruents corresponding to slack vocal chords') in the system.

For the fricatives, the same type of analysis can be applied, with the h-element ('noise') as the only source element. Again, the marked or more complex series is the one containing the H-element, that is the voiceless fricatives (see 6.15). And furthermore, assuming that the velar place is headless frication, it follows that the glottal fricative /h/ has an 'undemoted' h-element, whereas in the velars, the noise element functions as an operator. (We shall see in section 14.4.1 that debuccalization can lead to weakening of voiceless fricatives like [θ] to [h]). This is similar to what happens in the debuccalization of stops, where the result is a glottal stop or {h, ∅}, but unlike the /h/ there is little reason to set /∅/ up as a separate phoneme.

(6.15)	Fricatives	
	Voiceless	Voiced
	$/f/ = \{U, h, H\}$	$/v/ = \{U, h\}$
	$/θ/ = \{A, h, H\}$	$/ð/ = \{A, h\}$
	$/ç/ = \{I, h, H\}$	$/j/ = \{I, h\}$
	$/x/ = \{\_, h, H\}$	$/ɣ/ = \{\_, h\}$
	$/h/ = \{\underline{h}, H\}$	

This leaves the /s/, which as we have seen is the only sibilant in Icelandic. Given that it is a very 'rich' sound, having a rather dense spectral profile, it would seem to be appropriate to see it as a mixture of resonance elements, that is A (for 'mass') and I ('dip' for diffusion), along with h and H, as shown in (6.16):

(6.16)	$/s/ = \{h, A, I, H\}$
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For the nasals the only source or manner feature needed is the N-element ('nasal: low frequency of first resonance, corresponding to lowered velum; airflow through the nasal passage'), and the resonance distinctions connected to labial, coronal, and palato-velar articulation is represented in the same way as for the obstruents:

(6.17)	Nasals	
	Voiced	Voiceless
	$/m/ = \{N, U\}$	$/ṁ/ = \{N, U, H\}$
	$/n/ = \{N, A\}$	$/ṅ/ = \{N, A, H\}$
	$/ŋ/ = \{N, \_\}$	$/ṅ̥/ = \{N, A, H, \_\}$

The lateral [l] could be represented as a combination of the A-element (apicality) with ʔ (edge or closure), being distinguished from the dental stops by the absence of ‘noise’ or the h-element:

(6.18)	Lateral	
	Voiced	Voiceless
	/l/ {A, ʔ}	/l̥/ {A, ʔ, H}

The velarized [ɫ]: *sigldi* [sɪɫtɪ] ‘sailed’, *fylgdi* [fɪɫtɪ] ‘followed’, *fylgt* [fɪɫt̚] ‘followed-PART’ can then perhaps be represented as a headless construction: {\_, A, ʔ}.<sup>6</sup>

And then the /r/ can be represented as ‘pure’ A in non-nuclear position (the same element in nuclear position giving an [a]-sound, cf. section 4.1.3):

(6.19)	Trill	
	Voiced	Voiceless
	/r/ {A}	/r̥/ {A, H}

<sup>6</sup> There is a complication here, as noted in section 11.2.4 below, p. 227, due to the fact that voiceless sonorants can occur in codas before plosives, where generally, ʔ and H are not allowed to co-occur. If we take the voiceless [l̥] in *velta* [vɛɫta] ‘to roll’ to have ʔ, and the voicelessness as being due to H, we would have a co-occurrence of these two elements in the coda, which would seem to entail an aspirated plosive. A possible solution to this might be to look on the voiceless lateral as a fricative, i.e. with h rather than ʔ as a source feature. But it seems that this would then call for some reconsideration of the analysis of the other fricatives.

## FAROESE CONSONANT SEGMENTS

### 7.1 AN OVERVIEW

The chart in Table 7.1 gives an overview of Faroese consonants as represented in normal phonetic transcription in this book.

Several points of difference from the Icelandic system shown in Table 6.1 in the previous chapter catch the eye. The clearest difference is perhaps that Faroese has two places of articulation which are absent in Icelandic, namely retroflex and palato-alveolar. Another apparent difference is affrication, which may seem to be a separate

TABLE 7.1 Faroese consonants

	Labial	Dental/ alveolar	Retroflex	Palato alveolar	Palatal	Velar	Glottal
Glottal							
Stop							
Aspirated	p <sup>h</sup>	t <sup>h</sup>	t <sup>h</sup> (rt)			k <sup>h</sup>	
Unaspirated	p	t	ṭ (rd)			k	(?)
Preaspirated	<sup>h</sup> p	<sup>h</sup> t				<sup>h</sup> k	
Affricate							
Aspirated				tʃ <sup>h</sup>			
Unaspirated				tʃ			
Preaspirated				<sup>h</sup> tʃ			
Fricative							
Voiced	v			j			h
Voiceless		s	ʂ (rs)	ʃ			
Nasal							
Voiced	m	n	ɳ		ɲ	ŋ	
Voiceless	m̥	n̥			ɲ̥	ŋ̥	
Lateral							
Voiced		l	ɭ (rl)		ʎ (l)		
Voiceless		l̥			ʎ̥		
Trill (approximant)							
Voiced		ɹ	ɽ				
Voiceless		ɹ̥	ɽ̥ (rs, rt)				

manner of articulation in Faroese (although it will be suggested below that the palato-alveolar stops are simple segments rather than affricates).

However in spite of the differences, there are clear similarities between the Modern Faroese and the Modern Icelandic system. Thus the labial place in Faroese consonants corresponds well with the Icelandic one in all manners of articulation. The place for labial stops and the nasal [m] seem to be quite similar to what we find in Icelandic. Also the voiceless [f] in *fara* [fɛa:ɪa] ‘to go’ and the voiced [v] or [ʋ] in *veður* [ve:ʋʊɪ]/[ve:ʋʊɪ] ‘weather’ normally have a labiodental articulation (but it seems not as clearly labiodental as in English). The intervocalic variant of the voiced /v/ is normally an approximant, whereas the initial sound may vary between being an approximant or a fricative, as indicated by the transcription.

The dental stops in Faroese have, according to for example, Helgason (2002: 54 ff. and passim), as in Icelandic, a truly dental (rather than alveolar) articulation, although it seems that the Faroese stops, in forms like *túsund* [tʰu:sʊn] ‘thousand’ and *duga* [tuwa] ‘to know, use’, may be slightly ‘less dental’ (or more alveolar or apical) than the corresponding Icelandic ones.

Similarly, it seems that the coronal nasal is more dental than the Icelandic one, as in *nógvir* [nʰtɛkvɪɪ] ‘many’. A voiced dental /n/ before stop is to be found in *landa* [lanta] ‘to land’, and a voiceless one /ɲ/ is in *henda* [hɛɲta] ‘to pick up’. A palatal version of the nasal appears before /ʃ/ in *einki* [ɔ(i)ɲʃɪ] ‘nothing’ and a velar one in *longur* [lɔŋkʊɪ] ‘long’.

The initial /l/ in *landa* is dental or alveolar, and the same goes for the postvocalic one in *skal* [skeɑ:l] ‘shall’, although it may be a bit further back, especially in back surroundings, like *mál* [mɔɑ:l] ‘language’. But in addition to the truly dental or alveolar, there are two places of lateral articulation: retroflex [ɭ] (*r/*), and palatal [ʎ] (*lj/*). The former sound occurs in contact with /r/, which as a separate sound may have a retroflex character (cf. below). Thus the form *koyrlar* ‘whips-PL’ is pronounced [kʰɔɭɭaɪ] (cf. singular *koyril* [kɔiɪɪɪ] ‘whip’). Also, assimilation of the lateral to surrounding palatals has been noted in words like *telgja* [tʰɛʎʃa] ‘to carve’ (see Thráinsson et al. 2004: 45–6). The voiceless variants [ɭ̥] and [ʎ̥] occur before historical fortis stops in words like *fólk* [fœɭk] ‘people’ and *kjálki* [tʰʎaʎʃɪ] ‘jaw’.

In initial position, the pronunciation of the historical cluster /lj/ *ljót* ‘ugly’ varies. In some cases (Informant T-1), the onset is more or less fully pronounced, as [lj] or [li̯], whereas sometimes it seems to be a palatalized lateral [ʎ] (Informant T-43), and even just a palatal glide: [jɔu:tʊɪ] or [i̯ɔu:tʊɪ] (Informant *Rakul*), which in fact may be the most common pronunciation.

As just mentioned, the Faroese /r/ is typically (post-)alveolar or retroflex, and most of the time it is more like an approximant than a trill. This is unlike the Icelandic /r/, which is, in clearer styles at least, a true trill, and basically alveolar. The retroflexing effect on adjacent laterals has already been mentioned, but the phenomenon is more widespread. Examples showing the same effect in the contact of /r/ with other consonants are: *bert* [pɛɭɭ] ‘only’, *hoyrði* [hɔiɭtɛ] ‘heard’ (cf. Christiansen 1946–48: 138 ff. for similar phenomena in Norwegian dialects). Similarly, /rs/ in *mars* ‘March’ is articulated as [ʃs]: [maʃs:]. But there is some variation here, and the retroflexion of

clusters seems to be optional, at least in the case of /s/. And in fact, according to Eivind Weyhe (p.c.) the /r/ can be an alveolar trill in the speech of older people, in which case no retroflexion takes place in surrounding consonants. A pronunciation like [maɾ.s] for *mars* ‘March’ is known to occur in Suðuroy for example. But it is shown by Petersen (2005) that the backing or retroflexion of /r/ is gaining ground among the younger speakers, at least in Vágur, and it seems to be the main rule in the northern isles.

The Faroese palato-alveolar stops or affricates [tʃʰ] and [tʃ] are an historical innovation relative to OWN. They have developed on the one hand from velars by palatalization—in words like *kirkja* [tʃʰi.ɬʃa] ‘church’ and *geva* [tʃe.va] ‘to give’—and on the other by some sort of coalescence of /tj/ in *tjaldur* [tʃaltuɹ] ‘oystercatcher’. It is thus clear that palatalization has gone a step further in Faroese than in Icelandic (see section 6.2.2). Historically speaking, the innovation is a context sensitive palatalization of velars before front vowels, reaching the commonly attested conclusion (e.g. in English, Italian, and Polish) of a palato-alveolar stop or affricate, which we may interpret as being due to the enhancement of the I-element to becoming the head in the stops in question. In the other source of [tʃ] and [tʃʰ], that is in words like *tjaldur* ‘oystercatcher’ and *djeval* ‘devil’, the palatal element has been incorporated into the stop and it has replaced the historical A-element originally present.<sup>1</sup> The outcome is the establishment of palato-alveolar as a separate place of articulation in Faroese.

Thus there is an opposition between palato-alveolar stops in *kemur* [tʃʰe.muɹ] ‘comes’, *tjaldur* [tʃʰaltuɹ] ‘oystercatcher’, *geva* [tʃe.va] ‘to give’, and *djúpur* [tʃuu.puɹ] ‘deep’, on the one hand to dentals like in *telda* [tʰelta] ‘computer’, *tosa* [tʰɔ:sa] ‘to speak’, and *dagur* [tɛa.vuɹ] ‘day’, and on the other to velars in forms like *kettjari* [kʰɛʃa.ɹi] ‘(tennis) racket’ and *kettjup* [kʰɛʃup] ‘ketchup’, the latter of which forms a near minimal pair with *ketta* [tʃʰt:a] ‘cat’.

The palato-alveolars occur in both the fortis and the lenis series, as shown in (7.1):

(7.1) Fortis:

*hjá* [tʃʰɔa:] ‘by’, *kemur* [tʃʰe.muɹ] ‘comes’, *hjól* [tʃʰɔu:l] ‘wheel’, *hjúnaband* [tʃʰuu.napant] ‘marriage’, *hjálmur* [tʃʰɔlmuɹ] ‘helmet’, *tjaldur* [tʃʰaltuɹ] ‘oystercatcher’, *tjóð* [tʃʰɔu:] ‘a nation’, *kirkja* [tʃʰi.ɬʃa] ‘church’, *kjálki* [tʃʰɔʎʃi] ‘jaw’

Lenis:

*igjár* [iʰtʃɔa:ɹ] ‘yesterday’, *geva* [tʃe.va] ‘gefa’,  
*genta* [tʃɛnta] ‘girl’, *djúpur* [tʃuu.puɹ] ‘deep’

The Faroese /tʃʰ/ and /tʃ/ are here taken to be monosegmental, rather than clusters or affricates involving a special manner of articulation different from stops and

<sup>1</sup> This change has not reached all dialects, since in the speech of Suðuroy words like *tjóvur* ‘thief’ and *tjaldur* ‘oystercatcher’ have clusters of /tʰ/ + /j/ (or [i]) as onsets: [tʰjɔu.vuɹ], [tʰjaltuɹ], compared to [tʃʰɔu.vuɹ], [tʃʰaltuɹ] elsewhere; and similarly *djarvur* ‘bold’ and *djúpur* ‘deep’ have the cluster /tj/: [tjaɹvuɹ] and [tjuu.puɹ], compared to [tʃaɹvuɹ] and [tʃuu.puɹ] in other varieties (cf. e.g. Thráinsson et al. 2004: 346). Traces of a similar conservatism in Kalsøy are reported by Staksberg (1991: 34).

fricatives. Thus both /tʃ<sup>h</sup>/ and /tʃ/ can occur as long or short, according to the syllabic environments, short after long vowels as in *ríki* [ɹɔi:tʃɪ] ‘state’ (dialectal: [ɹɔi:tʃ<sup>h</sup>ɪ]) and long or geminated after short vowels, as in *nýggjur* [nɔi:tʃ:ɔɹ] ‘new’. There is no reason to take them as contour segments (a type of analysis often assumed for affricates, cf. e.g. Harris 1994: 40, 131), rather it seems that they can be analysed simply as having an I as head, that is as truly palatal consonants, rather than palatalized velars (with I in operator position, cf. Cyran 2003: 25). Thus palatalization has gone farther in Faroese than in Icelandic, in that in the Icelandic palatals, the I element is less prominent, that is to say in operator position, as suggested in section 6.2.2. Among the indications that Faroese /tʃ<sup>h</sup>/ and /tʃ/ are fully palatal throughout (i.e. that the I-colour is a component of the single segment and not the second part of a complex one) is the fact that they palatalize preceding sonorants in forms like *kjáلكi* [tʃ<sup>h</sup>ɔʃɪ] ‘jaw’ and *telgja* [tɛʃɪʃa] ‘to carve’.

Beside initial position like in *koma* [k<sup>h</sup>oɔ:ma] ‘to come’ and *góður* [kou:wɔɹ] ‘good’, velar stops are common in word internal position, both internal onsets, as in *vakur* [vɛa:kɔɹ] ‘pretty’ (also with aspiration: [vɛa:<sup>h</sup>kɔɹ] ‘pretty’), and coda position, as in *vegríð* [vɛkɹɪ] ‘the weather’ and *dagsins* [taksɪns] ‘the day-GEN.SG.DEF’. We note that there is no velar fricative in Faroese, matching the Icelandic one in *dagsins* [taxsɪns] ‘the day-GEN.SG.DEF’. (Except for the pronunciation [laytɔɹ] with a voiced fricative, for *lagdur* ‘a wisp of wool’ by a speaker from Vágur, noted in section 2.9 above, fn. 16 p. 30.)

As to glottal articulation, the /h/ as in *hestur* [hestɔɹ] ‘horse’ is the only consonant normally listed, and it only occurs initially, there being little reason to assume that Faroese preaspiration in forms like *vátt* [vɔ<sup>h</sup>t:] ‘wet-NEUT’ is a separate segment (cf. discussion in Chapter 11 below). The historical /h/ before /n/ has been deleted in forms like *nakki* [na<sup>h</sup>tʃ:ɪ] ‘neck, back of the head’ (cf. Icelandic *hnakki* [ɲahci] ‘id.’), and the same is true of historical /hl/, as in *leypa* [lei:pa] ‘to run’ (cf. Icelandic *hlaupa* [lœy:pa] ‘id.’), and /hr/ as in *rópa* [ɹɔu:pa] ‘to shout’ (cf. Icelandic *hrópa* [rœu:pa] ‘id.’). There are thus no voiceless sonorants in initial position in Faroese.

There are no reports in the literature of the glottal stop occurring in Faroese, but it seems in fact to be very common in the spoken language, functioning in a similar way to Icelandic as a postlexical realization of empty onsets, that is in stressed syllables, starting with a vowel. A typical example, taken from my corpus (Informant T-15), is shown in the utterance in (7.2):

(7.2) *Okkurt um árið 1908*

Something about the year 1908

‘Around the year 1908’

[<sup>h</sup>ʔɔ<sup>h</sup>kʊʃtʊm<sup>h</sup>ʔɔɔ:ɹɔ<sup>h</sup>nɔi:tʃɔntɹʊ<sup>h</sup>ʔɔ<sup>h</sup>ta]

Here all the stressed syllables—*okkurt* ‘something’, *árið* ‘the year’, and *átta* ‘eight’, having no onsets in the lexical representation—are realized with glottal onsets in the output. But there seem to be no signs of a tendency for stops to be glottalized in coda position in forms like *børn* [pɔtɹɪ] ‘children’ or *veðrið* [vɛkɹɪ] ‘the weather’, as is common in Icelandic, and as shown by the ‘chopped’ [paʔnɪθ] for *barnið* ‘the child’ (cf. section 6.2.1).

## 7.2 THE FORTIS AND LENIS PLOSIVES

7.2.1 *The phonological correlation*

For most Faroese varieties, the opposition between hard (aspirated) and soft (unaspirated) stops, as shown in (7.3), looks very much like the Icelandic one:

- (7.3) *peika* [p<sup>h</sup>ai:ka] ‘to point’      *bera* [pe:ɪa] ‘to carry’  
*tosa* [t<sup>h</sup>o:sa] ‘to speak’      *dalur* [tɛa:lʊɪ] ‘valley’  
*kemur* [tʃ<sup>h</sup>e:mʊɪ] ‘comes’      *geva* [tʃe:va] ‘to give’  
*hjá* [tʃ<sup>h</sup>ɔa:] ‘by’      *gjald* [tʃalt] ‘payment’  
*kola* [k<sup>h</sup>o:la] ‘lamp’      *gamal* [kɛa:mal] ‘old’

It seems safe to assume that, as in Icelandic, the opposition is based on aspiration, with the fortis as the marked series, having the H-element. However, things are not as clear-cut in Faroese as in Icelandic, since there are reports of variation, so that the lenis stops may be at least partly voiced in some varieties. In fact previous scholarship is not in total agreement regarding the phonetic transcription of the fortis and lenis stops.

According to the early description by Jakob Jakobsen (1891: 440), which was done in cooperation with Otto Jespersen, the Faroese plosives are similar to the Danish ones, so that the lenes stops are half voiced, and south of Skopunarfjørður, they are said to be voiced, at least in Sandoy. In his handbook, Lockwood (1955) uses the plain symbols [b], [d], etc. to denote the lenis stops in *blása* ‘to blow’ and *deyvur* ‘dumb’, marking voicelessness only in final position: *lamb* [lamb̥] ‘lamb’ and *hund* [hund̥] ‘dog-ACC’. Also, according to Rischel (1961: xxv–xxix), the unaspirated stops can be weakly voiced, especially after vowels. Thráinsson et al. (2004: 42) discuss the problem of transcribing the stop series, opting for what they acknowledge to be a redundant system, expressing diacritically both the aspiration of the fortis stop and the voicelessness of the lenis stop, as in [p<sup>h</sup>] *par* ‘pair’ vs [b̥] *bar* ‘carried’, noting that /b, d, g/ ‘**can** be voiced in Faroese’ (2004: 43).

Helgason’s phonetic investigations (2002: 146–9), based on data from Tórshavn, do not indicate any voicing in the lenis consonants. This contrasts with Central Standard Swedish, also discussed by Helgason, where word initial lenes show clear signs of voicing leads, at least in content words (2002: 140–1). In accordance with this finding, Helgason transcribes the lenis plosives in Faroese with IPA [p, t, k, etc.].

Acknowledging that there may be some variation, we follow this practice here, using normal IPA notation for the voiceless unaspirated or lenis plosives, that is [pe:ɪa] for *bera* ‘to carry’, *dalur* [tɛa:lʊɪ] ‘valley’, etc, and marking aspiration on the fortis stops: *peika* [p<sup>h</sup>ei:ka] ‘to point’, *tosa* [t<sup>h</sup>ɔ:sa] ‘to speak’, etc.

## 7.2.2 ‘Hard’ and ‘soft’ dialects in Faroese

As in Icelandic, the opposition between fortis and lenis stops is fully implemented only in initial position before vowels and glides. Thus the internal onsets in *pápi*

[p<sup>h</sup>ɔɑ:pɪ] ‘daddy’, and *bátur* [pɔɑ:tʊɪ] ‘boat’ are unaspirated in the many southern varieties. But, in the same way as Icelandic, there is a difference between what may be called ‘hard’ and ‘soft’ varieties, so that in some cases the opposition between hard and soft is neutralized word-internally after long vowels (or so it seems) in favour of the fortis variant, but in other cases in favour of the lenis one.

Helgason (2002) divides the Faroes into three dialect areas as regards the realization of V:C syllables where the C is a reflex of ON *p*, *t*, *k*. Area 1 comprises Mykines, Vágur, Eysturoy, and northern Streymoy, the second area comprises Norðoyar (including Klaksvík) and southern Streymoy, and Area 3 consists of Sandoy and Suðuroy. In Area 1, reflexes of the ON stops may show aspiration after long vowels, which is variously realized as preaspiration or postaspiration. The hard stops are preaspirated after non-high vowels. Area 2 does not have aspiration in intervocalic stops, and Area 3, the southernmost part, is said to have voiced stops after long vowels.

Weyhe (1997) talks about lenition in words like *tapa*, *lata*, *taka*; *tap*, *lat*, *tak*. The ‘leniting’ area is the whole area south of Skopunarfjørður, the southern part of Streymoy (up to and including Kaldbak), and Norðoyggjar. In a letter written in 1944, by an unschooled writer, it seems that ‘hard’ stops (written *p*, *t*, *k*) occur after low vowels, but unaspirated stops appear after high vowels.

Thráinsson et al. (2004: 345) talk about southern dialects, south of Skopunarfjørður (basically Sandoy and Streymoy), as having unaspirated stops in forms like *pápi* ‘daddy’, *bátur* ‘boat’, *baka* ‘bake’, alternating with voiced ones [p<sup>h</sup>ɔɑ:ɸɪ]/[p<sup>h</sup>ɔɑ:bɪ] (their transcription) for *pápi*, etc. Secondly, the dialect of southern Streymoy (including Tórshavn), has optionality or alternation between lenes and fortes: [p<sup>h</sup>ɔɑ:ɸɪ]/[p<sup>h</sup>ɔɑp<sup>h</sup>ɪ] (sic!) and thirdly, in the northernmost areas, including Vágur, the hard stops are realized with preaspiration after certain long vowels, as in [p<sup>h</sup>ɔɑ<sup>h</sup>pɪ], [ɸɔɑ<sup>h</sup>tʊɪ], and [ɸɛɑ<sup>h</sup>ka]. According to Thráinsson et al. (2004: 345), ‘postaspiration only occurs sporadically in this context’.

There is therefore quite a bit of variation and the picture is not entirely clear and obviously too complicated for us to give a detailed description here. In fact, there are inaccurate and sometimes contradictory reports of the distribution of aspiration, particularly of preaspiration. For example Werner (1963: 82) describes the pronunciation of speakers from two different and quite distant locations, that of Eiði in northern Eysturoy and of Hvalba in Suðuroy, as having preaspiration after long high vowels, as in *greytur* ‘porridge’ [grei<sup>(h)</sup>tʊr, grei<sup>(h)</sup>tʊr] (Werner’s transcription). Werner also reports preaspiration before /s/ in forms like *ísur* ‘ice’ [ʊɪ:<sup>h</sup>sʊr, ʊɪ:<sup>(h)</sup>sʊr] (Werner’s transcription). This testimony goes against what the other sources have to say, and Werner’s observations have not been confirmed (Eivind Weyhe, Annfinnur Johansen, Hjalmar Petersen p.c.)

According to my observations, the hard vs soft distinction, as far as it applies to internal onsets, is only based on **preaspiration**, and then only following low vowels. I have found no instances of postaspiration on stops following long low vowels in words like *bátur* ‘boat’, *pápi* ‘daddy’. (And this is confirmed by Eivind Weyhe, Annfinnur Johansen, and Hjalmar Petersen, p.c.) In the ‘hard’ variants, these sounds



have preaspiration, realized as a relatively weak ‘puff of air’ between the vowel and the closure: [pɔɑː<sup>h</sup>tʊɪ], [p<sup>h</sup>ɔɑ<sup>h</sup>pɪ]. There is never any aspiration (post- or pre-), even in the ‘hard’ area, on stops following high vowels, that is in forms like *sípa* ‘to throw’, *vika* ‘week’, or *sukur* ‘sugar’ (cf. Petersen 1996: 14). These words are normally pronounced as [si:pa], [vi:ka] and [su:kʊɪ] in all varieties, except those areas which have voiced or partly voiced intervocalic plosives.

The general picture that emerges is, therefore, that as in Icelandic, the West Nordic consonant shift (see section 2.7) has been more or less fully carried out in initial positions, but that it has left a very blurred isogloss distinguishing between ‘hard’ varieties with instances of aspiration in postvocalic or foot-internal position, and ‘soft’ ones, where intervocalic stops do not have aspiration. Thus aspiration in internal onsets is only marginal in Faroese. (Interestingly enough, it so happens that in both languages aspiration is a northern characteristic, and lack of aspiration a southern one, although it would seem unlikely that this is significant in any way.)

As mentioned at the end of section 6.4, and further discussed in section 11.2.2, there is a connection (both formally and as regards geographic distribution) in Icelandic between the hard variety and voiced pronunciation in forms like *hjálpa* [çaulp<sup>h</sup>a] ‘to help’ beside [çaulpa]. There are no records of this sort of variation in Faroese. sonorants are invariably voiceless before fortis stops, as in *hjálpa* [jɔlp̥a] ‘to help’, *altíð* [alt̪vi] ‘always’, *bólkur* [pœlkʊɪ] ‘group’. The devoicing of sonorants therefore seems to be more consistent in Faroese than in Icelandic, and it goes even further, since it takes place before /s/ in words like *danskur* [taŋskʊɪ] ‘Danish’, *hálsur* [haɭsʊɪ] ‘neck’, *klamsa* [k<sup>h</sup>laŋsa] ‘to smack’, although sometimes this vacillates, as in *dansa* ‘to dance’, which can be pronounced either [tantsa] or [taŋsa]. Also, voiceless [f] occurs in Faroese before /s/ in a limited number of cases like *havs* [hafs] ‘sea-GEN’, where it looks (in a similar way to Icelandic) like a devoiced counterpart of /v/, cf. *hav* [heɑ:v] ‘see-NOM’, *havið* [heɑ:vi]. However, there is a dialect difference here, as noted by Eivind Weyhe (p.c.), so that in the variety spoken in Suðuroy and elsewhere, these forms may have voiced sounds before the /s/: [tansa], [hɔls], [klamsa], [havs].

As in Icelandic, there is thus a general neutralization of the fortis–lenis opposition in intervocalic position, and as we have seen, there are no intervocalic fricatives either. For this reason it is common in loans from Danish for the intervocalic fricatives (or even approximants) to be mapped onto stops in Faroese. These stops may be represented in the Faroese spelling by *p*, *t*, *k*, as shown in (7.4), borrowed from Hagström (1991). Here we see that intervocalic fricatives in Danish are regularly mapped into the Faroese system as (mostly voiceless) stops.

(7.4) Faroese	Danish
<i>putur</i> [pu:tʊr] ‘powder’	<i>puder/pudder</i> (cf. MI <i>púður</i> )
<i>slatur</i> [stlɛa:tʊr]/[stlɛaː <sup>h</sup> tʊɪ] ‘gossip’	<i>sladder</i> [slaðə]
<i>sleta</i> [stleː <sup>(h)</sup> ta] ‘sleigh’	<i>slæde</i> [sleːðə] (MI <i>sleði</i> )
<i>keta</i> [tʃeː <sup>(h)</sup> ta] ‘chain’	<i>kæde</i> [k <sup>h</sup> eːðə] (MI <i>keðja</i> )
<i>feður</i> [feː <sup>(h)</sup> pʊɪ] ‘fever’	<i>feber</i> [feːbə]/[feːvə]

Some of the examples mentioned by Hagström (1991: 40) involve a sort of folk etymological reconstruction, as in the case of *sjokuláta* [ʃoʊ:kə'lɔɑ:ta] (or *sukurláta* [su:kərlɔɑ:ta]) 'chocolate' (Danish *chololade* [ʃoko'læðə]), *marmuláta* [marmə'lɔɑ:ta] 'marmalade', where the second (stressed) part is most likely associated with the verb *láta* 'to let'. Some of these loans are quite old, as shown for example by the fact that in *keta* [tʃee:ta] 'chain' the initial stop has been fully palatalized, and it is possible that in some cases the Danish forms had stops at the time they were borrowed, so that the spelling naturally corresponds to stops in the lending language. But in other cases, like *radar* 'radar', *radio* 'radio', *grad* 'degree', and *soda* 'soda', the 'native' spelling is not used, although they are pronounced with stops. A recent example from my corpus (Informant S-4, from Sandoy), shows substitution of Faroese /t/ for a Danish [ð] in the word *moderfår* 'ewe, literally: mother sheep'. This form is pronounced [ˈmoʊ:təɹfoʊɹ], with a fully Faroese (non-Danish) pronunciation and showing that the Danish [ð] is substituted by the stop [t]. It is of course possible that the written Danish form has some effect here, so that the letter *d* is taken as appropriately pronounced as [t].

But the main reason why Danish fricatives are regularly mapped onto stops in Faroese seems to be the phonological fact that there are no intervocalic fricatives in the language, and the closest equivalent that Faroese has to an intervocalic /ð/ is the dental stop /t/, and for the /b/ or /v/ of Danish *feber* [fe:bə]/[fe:və] the stop /p/ is nearest at hand, as in *feður* [fee:pʊɹ]. The possibility of substituting a glide like the one in *veður* [vee:vʊɹ] 'weather', to give something like [fee:vʊɹ], seems not to be an option.

We saw in section 6.2.3 that in Icelandic there is an issue as to whether there actually is neutralization intervocalically between aspirated and unaspirated plosives, since borrowings, into both the 'soft' and 'hard' variety, have supplied forms which create new oppositions. The question is whether something similar has taken place in Faroese, showing that there is a phonologically principled opposition between fortis and lenis stops in internal onsets, and that the relative lack of examples is accidental. In fact, it seems that there is basically no reason to assume this for Faroese.

For one thing, it should be kept in mind that the 'hard' vs 'soft' dialect division is rather marginal in Faroese, and the (pre)aspiration in the hard variety has a limited distribution, since it does not occur after high vowels. True, there are some potential or near-minimal pairs. Thus for speakers of the 'hard' variety, who have aspiration in forms like *bátur* [pɔɑ:hʊɹ] 'boat', forms like *radar* 'radar' and *radio* 'radio' do not have preaspiration: [ra:tar], [ra:tio]; forms like \*[ra:hʊɹ] are not heard. Another near minimal pair for such speakers is *eta* [ee:hʊɹ] 'to eat' with aspiration, vs the loan *edikur* [ee:tk:ʊɹ] 'vinegar' without aspiration on the /t/. But I have been unable to elicit forms with any kind of aspiration from speakers of the 'soft' variety. Speakers of this variety do not aspirate after long vowels in words like *katolikkur* [ka:tʰlʰkʊɹ] 'a catholic', *opera* [ɔpe:ɹa] 'opera', *poker* [pʰɔ:ke:ɹ] 'poker'. However, at the onset of a stressed syllable, aspiration appears: *katekismus* [kʰate'kʰismʊs] 'catechism', *Italia* [iʰtʰa:liɑ] 'Italy'. We shall return to these problems in section 9.4.4 below.

## 7.3 THE FRICATIVES

## 7.3.1 Initial fricatives

We have seen that the inventory of fricatives is noticeably smaller in Faroese than in Icelandic. This is due to special developments in Faroese affecting the historical fricatives described in section 1.2, both initially and word internally.

Starting with voiceless fricatives in initial position, the only plain fricative (apart from /h/ and the sibilants) is the labiodental /f/, as in *fara* [fɛa:ɪa] ‘to go’. The lack of dental fricative derives from the fact that historical /θ/ in *Þór* ‘Thor’ corresponding to MI [θou:ɾ] has either become a stop, as in *Tórshavn* [tʰou.ʃhavn] ‘the city’, *Tróndur* [tʰrɔntuɪ] ‘a man’s name’, *trongur* [tʰɔŋkʊɪ] ‘narrow’, *tungur* ‘heavy’ [tʰuŋgʊɾ], or has been debuccalized, losing its supraglottal articulation and becoming /h/, as in *hósdagur* [høstea:vʊɪ] ‘Thursday’ or *har* [hɛa:ɪ] ‘there’ (cf. MI *þar*), *hetta* ‘this’ [heʰt:a] (cf. MI *þetta*).

In most varieties, there is no initial velar or palatal fricative in MF. Corresponding to Icelandic /ç/ in *hjá* [çau:ɪ] ‘by, with’ and *hjallur* [çatlyɾ] ‘shed for drying fish’, Faroese either has the palato-alveolar stop /tʃ/ as in *hjá* [tʃɔa:ɪ] ‘by, with’ or a voiced /j/ as in *hjarta* [jaɹta] ‘heart’. But the sound [ç] is not totally unknown, since, for example, the variety used in some communities in the Northern part of Suðuroy has this sound, on the one hand through frication of the stop in *kenna* [çɛn:a] ‘to know’ ([ʃɛn:a] in other varieties), and on the other hand in words like *hjallur* [çatʊɪ] ‘shed’ the palatal fricative, as in Icelandic, is the reflex of historical /hj/.

The historical /h/ as a simple onset prevails throughout in examples like *hestur* [hestuɪ] ‘horse’ and *hús* [húu:s], ‘house’. But in front of glides it has either developed into a stop, a velar one in *hvalur* [kʰvea:lʊɪ], and, as we saw, a palato-alveolar one in *hjá* [tʃɔa:ɪ], or been deleted, as in *hjarta* [jaɹta] ‘heart’. The historical /h/ has also, for the most part, been lost before sonorants, as in *loypa* [loi:pa] ‘to run’ (cf. Icelandic *hlaupa*) or *rópa* [ɹɔu:pa] (cf. Icelandic *hrópa*). Before /n/ and /l/, the /h/ has either been deleted, giving MF *nakki* [naʰtʃi:ɪ] ‘back of the head’, *loypa* [loi:pa] ‘to run’, etc. or developed into a stop, as in MF *kneppa* [kʰneʰp:a] ‘to button’.

There are three sibilants in Modern Faroese. The alveolar [s] in *sita* [si:ta] ‘to sit’, *songur* [sɔŋkʊɪ] ‘song’ is a typical [s]-sound. In addition to this, Faroese has palato-alveolar [ʃ] in *skjaldur* [ʃaltuɪ] ‘a nursery rhyme’, *sjálvur* [ʃɔlvʊɪ] ‘self’, *skip* [ʃi:p] ‘ship’. And furthermore a retroflex [ʂ] occurs postvocally, corresponding to the spelling *rs*, as in *vers* ‘verse’ [veʂ].

The only voiced continuant sounds in initial position are the weak fricatives or glides, one is palatal in forms like *jól* [jɔu:l] ‘Christmas’, *Hjalmar* [jalmaɪ] ‘a man’s name’, and a second is labiodental: [v] or [ʋ] in *vani* [vea:nɪ]/[ʋɛa:nɪ] ‘habit’, *vald* [valt]/[ʋalt] ‘power’, and many other examples.

A special characteristic of the speech of Suðuroy involves the distribution of the palatal glide /j/ and the stop /tʃ/ (or perhaps voiced /dʒ/). In most northern and southern parts of this island, words like *gjógv* ‘a crevice’ and *geva* ‘to give’ have initial /j/:

[jɔk:v], [je:va], compared to the more common [tʃɛk:v] [tʃe:va]. But conversely, in the variety spoken in the middle of the island, for example in Tvøroyri, these forms, and such forms as have /j/ in other parts have a stop /tʃ/. Thus, in this particular variety the same *Jógvan* is pronounced [tʃɔk:van], and also *hjarta* ‘heart’ and *jól* ‘Christmas’ are pronounced: [tʃa:tʃa] and [tʃou:l] in contrast to the more common [ja:tʃa] and [jou:l]. As a consequence, the words *gjørð* ‘girdle’ and *jørð* ‘earth’ are synonymous in most indigenous varieties of Suðuroy, but with two different realizations. In the middle area they both have /tʃ/: [tʃæ:tʃ], but in most other parts of the island, they have /j/: [jæ:tʃ] (cf. Weyhe 2003).

### 7.3.2 Word-internal fricatives and glides

We have seen that the deletion of the intervocalic fricatives /ð/ and /ɣ/, which have been replaced by regularly distributed glides, has greatly reduced the number of word-internal oppositions. The result is that there are virtually no word-internal fricatives, only glides: labial (labiovelar) [w], labiodentals [v], and palatal [j] according to the rules illustrated in (5.13), p. 82.

Apart from /s/, as in *tosa* [tʰo:sa] ‘to speak’ and *hestur* [hestu:ɹ] ‘horse’, and [ʃ] in *vers* [vɛʃ] ‘verse’, voiceless word-internal fricatives are rare in the most common varieties. Unlike in Icelandic, stops occur before /s/ and /t/ in forms like *rópti* [rœʰptɪ] ‘shouted’, *røkt* [rœʰkt] ‘cultivation’, and *vaksa* [vaʰksa] ‘to grow’ (compared to Icelandic *skipta* [scifta] ‘change’, *rækt* [raikt] ‘cultivation’, and *vaxa* [vaxsa] ‘to grow’, cf. sections 6.3 and 11.2.4).

Thus there is no tendency toward frication of stops before /s/ and /t/ in Faroese, as there is in Icelandic giving clusters like [ft] and [fs]. But this does not mean that no such forms occur; we get a voiceless /t/ in MF forms like *havs* [hafs] ‘sea-GEN’, *ofta* [ɔfta] ‘often’, *havi* ‘have-PAST.PARTICIPLE, a fetter’, and *skafi* [skaft] ‘shaft’, showing unchanged structure from OWN. Furthermore, beside the normal pronunciation [ɔʰp.na] for *opna* ‘to open’, the variant [ɔfna] is known to occur (Eivind Weyhe, p.c.); this seems to be some sort of frication before a nasal. As in Icelandic, assimilation or deletion of the fricative (or stop) may occur in words like *aftur* [aʰt:u:ɹ] ‘again’, *eftir* [ɛʰt:ɹ] ‘after’.

In Faroese, as in Icelandic, stops appear in codas before /n/ and /l/ in a following onset, velar ones in *regna* [ɹɛkna] ‘to rain’ and *sigla* [sɪkla] ‘to sail’, and dental ones in *allir* [atli:ɹ] ‘all’ and *seinni* [saitni] ‘later’. We note, however, that the OWN labial fricative in *jafn* ‘even’ has become a glide or the second part of a diphthong in [jau:n] (compared to Icelandic *jafn* [japn] with a stop). The OWN *fl* interlude corresponding to words like MI *tafla* [tʰapla] ‘table, board’, *efla* [ɛpla] ‘to strengthen’ has undergone metathesis in Faroese, giving MF *talva* [tʰalva] ‘table, board’, *elva* [ɛlva] ‘to encourage, egg on’.

## 7.4 SONORANTS

The nasals /m/ and /n/, as in *matur* [mɛa:(<sup>h</sup>)tʊɹ] ‘food’ and *nakin* [nɛa:(<sup>h</sup>)ʃɪn] ‘naked’, and /l/ and /r/ as in *litur* [li:tʊɹ] ‘colour’ and *rópa* [rɔu:pa] ‘to shout’ form singleton onsets in initial position. In words spelled with initial /lj/ as in *ljós* ‘light’, there is variation, so that beside the ‘clear’ pronunciation [ljɔu:s] or [l̥jɔu:s], the alternant [ʎɔu:s] (with a palatal lateral) is common, and perhaps most frequently the initial sound of this word and others like it (e.g. *ljótur* ‘ugly’) is simply a glide: [jɔu:s] or [l̥jɔu:s], [jɔu:tʊɹ] or [l̥jɔu:tʊɹ].

There are no voiceless sonorants in initial position in Faroese (corresponding to Icelandic [ŋ, ɭ, ʀ]). Thus Icelandic *hnakki* [ŋahci] ‘neck, back of the head’, *hneppa* [ŋɛhpa] ‘to button’, *hlaupa* [l̥œy:pa] ‘to run’, *hrópa* [r̥ou:pa] ‘to shout’ have in MF, as we have seen, either lost the voicelessness, as in *nakki* [na<sup>h</sup>ʃi:] ‘back of the head’, *loypa* [loi:pa] ‘to run’, and *rópa* [rɔu:pa] ‘to shout’, or a stop has developed, as in MF *kneppa* [k<sup>h</sup>ne<sup>h</sup>pa] ‘to button’.

But voiceless sonorants are of course common word internally before fortis stops, as in *hjálpa* [jɔɭpa] ‘to help’, *danskur* [taŋskʊɹ] ‘Danish’, *kirkja* [ʃi.ʝʃa] ‘church’, *kjálki* [ʃɔɭʃi] ‘jaw’. Velar and palatal nasals occur before homorganic stops, as in *longur* [lɔŋkur] ‘long’ and *leingja* [leiŋtʃa]/[loiŋtʃa] ‘to lengthen’. And these have voiceless variants in forms like *onkur* [ɔŋkʊɹ] ‘someone’, *banki* [paŋʃi] ‘bank’, etc.

## 7.5 THE ELEMENT ANALYSIS OF THE FAROESE SYSTEM

Based on the description given above, we can analyse the Faroese consonantal system with the help of the element notation introduced in section 3.2.2 and used for Icelandic in section 6.5. In some cases questions are left open whether all the sounds described in Table 7.1 should be seen as independent input units or whether they are variant output forms or allophones which have come about through the spreading of features from neighbouring units, for example by retroflexion or devoicing.

The labial stops can be represented as in (7.5), their resonance characteristics being supplied by the U-element:

- (7.5) [p<sup>h</sup>] {U, ʔ, h, H}  
[p] {U, h, ʔ}

And similarly, the dental stops contain the A-element, as shown in (7.6):

- (7.6) [t<sup>h</sup>] {A, ʔ, h, H}  
[t] {A, h, ʔ}

According to our conclusion in section 7.1 above, that there is little reason to assume that the palato-alveolar stops are affricates; they can be represented as monosegmental stops containing the I-element in head position:

- (7.7) [tʃ<sup>h</sup>] {I, ʔ, h, H}  
[tʃ] {I, h, ʔ}

Thus, unlike the Icelandic /c<sup>h</sup>/ in *kemur* [c<sup>h</sup>ε:myɾ] ‘comes’ and /c/ in *gefa* [cε:va] ‘to give’, the Faroese /tʃ<sup>h</sup>/ and /tʃ/ are true palatals in having an I in head position; the Icelandic stops can be represented as {\_, I, ʔ, h} on the lexical level, that is with the I-element playing the role of operator (cf. section 6.5).

The velars in *koma* [k<sup>h</sup>oɔ:ma] ‘to come’ and *góður* [kou:wuɹ] ‘good’ can then be seen as the headless place of articulation, as shown in (7.8):

- (7.8) [k<sup>h</sup>] {\_, ʔ, h, H}  
[k] {\_, ʔ, h}

Turning to fricatives, the voiceless labiodental [f] in *fara* ‘to go’ can be seen as a combination of the labial element or U-resonance with voiceless frication, and to the extent that the initial sound of *vakur* [vεa:kʊɹ] ‘pleasant’ is to be classified as a fricative, it can be represented in a similar way as a combination of U and frication:

- (7.9) [f] {U, h, H}  
[v] {U, h}

To the extent that the palatal fricative [ç] needs to be accounted for, as in the variant [çen:a] for *kenna* ‘to know’ in Suðuroy, it can be represented as {I, h, H}, that is with the I-element as head.<sup>2</sup>

As in Icelandic, we may assume that the alveolar /s/ in *sita* ‘to sit’ is a complex sound, containing both A (for ‘mass’) and I (‘dip’ for diffusion). For the palatal /ʃ/, the I-element can be seen as forming a head, as shown in (7.10). To the extent that we want to express the retroflexion in [ʂ], as in *vers* [vεʂ] ‘verse’, as a characteristic of a separate segment, this can be seen as due to the enhancement of A to the status of head:

- (7.10) /s/ {I, A, h, H}  
/ʃ/ {I, A, h, H}  
/ʂ/ {A, I, h, H})

The voiceless glottal /h/ is simple frication, and to the extent that the glottal stop should be given some sort of systematic status, this can be represented simply as ʔ (‘edge’).

- (7.11) /h/ {h, H}  
(/ʔ/ {ʔ})

<sup>2</sup> See e.g. Harris (1994: 118–19) for a description of palatals in English.

The phonemic initial nasals can be represented simply as combinations of the N-element with U and A as resonance elements:

- (7.12) /m/ {U, N}  
 /n/ {A, N}

And to the extent that the [ŋ] and [ɲ] are seen as independent units, these can be represented as in (7.13):

- (7.13) (/ŋ/ {\_, N})  
 (/ɲ/ {I, N})

The Faroese /l/ could in principle be analysed in the same way as the Icelandic one, that is as in (7.14):

- (7.14) Voiced      Voiceless  
 /l/ {A, ʔ}    /l̥/ {A, ʔ, H}

But the palatalization and weakening shown in forms like *kjálki* [tʃʰɔʎtʃɪ] 'jaw' and *telgja* [tɛʎtʃa] 'to carve', and in *ljós* 'light', giving [ʎou:s] and even [jɔu:s] or [iɔu:s], [jɔu:tɔɪ] or [iɔu:tɔɪ], may be taken as a sign of some vacillation in the strength of the elements.

The Icelandic /r/ was analysed in section 6.5 as a simple {A} (see example 6.19), and this may seem to be just as appropriate for the Faroese /r/, as shown in (7.15):

- (7.15) Trill  
 Voiced      Voiceless  
 /r/ {A}    /r̥/ {A, H}

But we have seen that the Faroese /r/ phoneme differs from the Icelandic one in being more retroflex, and this difference between Icelandic and Faroese can be seen as lying in the different status of the A-element. The question is whether the difference between the two languages, namely that there is a tendency toward retroflexion associated with the Faroese /r/, and that it is typically an approximant but the Icelandic one a proper trill, should be accounted for in terms of differences in element composition of phonemic segments or due to some surface phonetic characteristic. However this may be, it would perhaps be tempting to suggest that there is some connection between the fact that Faroese has lost its dental fricatives [θ] and [ð] as true A-coloured fricatives. This question is left for further study and as a challenge to element theory or other theories.

## Part III

### Systemic relations and syllabic structure



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## SYSTEMIC RELATIONS IN VOWELS

In a simple length correlation like the one set up for Modern Icelandic in (4.3), p. 58–9, we should ideally have an isomorphic mapping, so that each long segment has a corresponding short one and vice versa. The opposition, determined by length or syllabic conditions, should then be represented in terms of some characteristic of long and short segments (such as morae or x-slots representing rhythmic beats, or some marker of length vs shortness or tenseness vs laxness having different values for different types of segments). But as soon as the isomorphism breaks down, as it clearly does at least in the case of Faroese, the problem becomes more complicated, i.e. in cases like the alternation *ljótur* [ljɔu:tʊɹ] ‘ugly-MASC’ vs *ljótt* [ljœ<sup>h</sup>t:] ‘ugly-NEUT’, cf. section 5.1.2. And in this chapter it will be shown that a similar trend is at work in Modern Icelandic, and we will discuss the problem of analysing the relation between two or more different but related vowel systems.

### 8.1 TRENDS TOWARDS A DIASYSTEM IN ICELANDIC

Although the length correlation in MI is fairly transparent, with long vowels (and diphthongs) in open syllables and short vowels and diphthongs in closed syllables (see, e.g., Árnason 1980: 12–59; Gussmann 2002: 157 ff.), there are complications, some of which suggest that the system has developed a more fundamental or phonemic contrast between the two vowel systems than has commonly been assumed. We may in fact be witnessing a return to a diasystemic structure somewhat like the Old West Nordic one with a length contrast in vowels, but with mismatches in the mapping between the long and the short systems.

As already mentioned in sections 2.6 and 4.1.1 the pronunciation of short diphthongs is likely to be less distinct than indicated by the idealized transcription. And on the other side, there is a tendency toward diphthongization of long mid vowels in forms like *tekur* ‘takes’, *koma* ‘to come’, and *fögur* ‘pretty’ (cf. also Árnason 1998a, 2005a: 256–62).

#### 8.1.1 The ‘new’ diphthongs

The long (open syllable) variants of the MI low-mid vowels, /ɛ/, /ö/ and /ɔ/, show a tendency to diphthongize by forming raised onglides, as shown in (8.1):

- (8.1) *fögur* [føæ:γγ̥] ‘pretty’  
*tekur* [tæɛ:kγ̥] ‘takes’  
*sofa* [soɔ:va] ‘sleep’

This diphthongization is most evident when the vowels are lengthened by a stress or an accent; in weaker (unstressed) surroundings the diphthongal character is less clear. The variation might be taken to show that we are dealing with underlying monophthongs, which split their colours and distribute them on different morae under stress. But we should not exclude the possibility that the diphthongal character is basic, and that the monophthongal allophones are then due to undershoot or less clear articulation of diphthongal vowels when short. We have seen that such a monophthongization also affects the short variants of the primary diphthongs in *kjóll* ‘dress’ and *hækkaði* ‘rose’, which beside the ‘clear’ pronunciation [c<sup>h</sup>outl] and [haihkaði] may be pronounced as [chotl] and [hahkaði], and the same may happen in forms like *veisla* [vestla] ‘party’ or *austur* [østy̥] ‘east’.

In fact it can be argued that the diphthongization shown in (8.1) is not a direct function of a simple increase in length or duration. Another way of describing the facts is to say that the diphthongs occur in open syllables like *fö.gur*, *te.kur*, and *so.fá*, but not in closed ones, as in *prös.tur* ‘thrush’, *hes.tur* ‘horse’, *kos.tur* ‘option’; pronunciations like \*[θrœs.ty̥], \*[heɛs.ty̥] and \*[k<sup>h</sup>oɔs.ty̥] are clearly abnormal. Seen in this way, it is not the length or duration as such, but the syllabic structure which conditions the diphthongization, which only becomes obvious when these open syllable vowels are lengthened under stress.

As will be shown more clearly below (Chapters 9 and 10), the actual length or duration of vowels (and consonants) is governed by postlexical conditions and intonational patterning, so that in the open syllables the vowels normally carry the accent, as in *vita* [vɪ:.ta] ‘to know’, but in *vista* [vis'.ta] ‘to place, to save’ the accent is realized by stretching the consonant, giving it the so-called ‘half length’, (cf. section 9.1.4). But the ‘short’ vowels in *pröstur*, *hestur*, and *kostur* **can** be lengthened phonetically under certain conditions, namely in singing.

It is a well known problem in choir singing in Iceland that amateurs tend to stretch coda consonant on long notes, and to intone a syllable like *pröst-* so as to give something like: [θrœs:.ty̥] with a long consonant. It is one of the most commonly repeated pieces of advice given by singing instructors that one should ‘sing on the vowels, and not the consonants’. This rule or instruction is directed against something which comes naturally to speakers of Icelandic, namely producing the linguistically normal (but musically bad) [θrœs:.ty̥], with an exaggerated ‘half length’ on the consonant [s], on the long note.

To give an illustration, a very popular song to the words of the national poet Jónas Hallgrímsson (*Ég bið að heilsa*)<sup>1</sup> has the first syllable of the word *pröstur* ‘thrush’ located on a long note. This means that for singers following the principle of singing on the vowels, the short vowel becomes abnormally long, something like [θrœ::sty̥].

<sup>1</sup> For an English translation see: <http://www.library.wisc.edu/etext/Jonas/>

Here, the vowel is stretched according to need, and the best 'solution' is to make the first syllable open, so that the /st/ cluster forms a phonetic onset to the following syllable. But it should be noted, that this 'musical lengthening' does not involve substituting the long diphthongal variant [øæ:] for the short [æ], rather the latter melody is stretched as such; a pronunciation something like \*[θrøæ:.stʏr], with a diphthong would be a much more drastic deviation from the normal pattern than the monophthongal one and would surely be seen as abnormal.

What this shows is that the linguistic difference between the two vowels, the open syllable vowel in *fögur* [føæ:ʏʏr] 'fair-FEM' and *grösugur* [krøæ:sʏʏʏr] on the one hand and the closed syllable vowel in *þröstur* [θrøes.tʏr] 'thrush' on the other, lies not only in their durational structure but in the fact that the 'long' one, phonotactically belonging to the open syllable, has a diphthongal allophone and the 'short' one does not. Trained singers stretch the short vowel in *þröstur*, but the fact that they do not diphthongize it shows that it does not have a diphthongal allophone and furthermore that diphthongization is not an automatic or phonetic consequence of increased length or duration.

We note of course that there is a difference between singing and more normal utterance styles (cf. Chapter 14). And it is true that singing may involve a sort of 'abuse' of the natural phonological system of the language. But it can also be argued that the way this 'abuse' is carried out is revealing since it makes visible some parts of linguistic structure which are less obviously present in more natural styles of utterance. The accommodation in the singing style does not involve the substitution of a long (open syllable) vowel for a short (closed syllable) one, only a lengthening of the normal short vowel unit, and the increased duration does not automatically trigger diphthongization or melodic fission.

Given our interpretation of diphthongization as fundamentally a fission, which is not inherently connected to phonetic lengthening, the story goes something like this: In accordance with the model outlined in sections 3.3–4 the diphthongization of /ɛ:/ to [eɛ] and /æ:/ to [øæ:] involves a tendency of raising, that is of enhancing the I-element at the outset of vowels in unmarked surroundings, such as open syllables, and similarly, the diphthongization of /ɔ:/ to [oɔ:] involves an enhancement of the U-element in the same type of surroundings. Thus, rather than being a function of duration, the diphthongization is a spontaneous change, which applies to structurally unmarked, that is 'long' (open syllable), low-mid vowels.

But unlike the /i/- and /u/- diphthongs, these new diphthongs are not true diphthongs in the sense proposed in section 3.4 whereby both components can be identified with qualities that occur in other monophthongs. It is thus not clear that the [e]-, [o]-, or [ø]- components of [eɛ:], [oɔ:], and [øæ:] correspond to any monophthongal qualities that occur independently in the system. Their structure is not 'preserved'. Also, the role played by these diphthongs in morphophonemics is not systematic in the way described in Chapter 12 for the phonemic diphthongs /ei/, /ai/, /œi/, /ou/, and /au/.

## 8.1.2 A context-free merger in the 'long' system

Additional light is shed on the facts of the diphthongization of mid vowels in Modern Icelandic, and the relation between the long and the short system, by another innovation in Modern Icelandic phonology. This is the so-called *flámæli* (slack-jawed speech), which is a merger of the high mid vowels /ɪ/ and /ʏ/ with the corresponding low mid vowels /ɛ/ and /œ/. This change in the vowel system (according to most reports) occurs in long vowels, that is in open syllables, at least in its initial stage. Thus, long /ɪ/ in *skyr* ([sci:r] in the standard dialect) 'a kind of Icelandic yoghurt' lowers and merges with long /ɛ/, as in *sker* ([sceɛ:r] in the standard) 'reef', giving [sceɛ:r] for both *skyr* and *sker*. And similarly long /ʏ/, as in *flug* ([fly:x] in the standard) 'flight' lowers and merges with long /œ/ as in *flög* ([flyœ:x] in the standard) 'patch of ground without vegetation-PL'. Thus in the *flámæli* variety *flug* and *flög* both have a long diphthong: [fløœ:x].

This dialect feature, which emerged in the nineteenth century, had its heyday in the first half of the twentieth century. But it became subjected to heavy stigmatization and is now almost extinct and only occurs in the speech of older people. It is thus about to be ousted by the more conservative 'correct' dialect. As an example of the *flámæli* dialect, I use a recording made in 1986 of speaker Ari, who was born in 1908.<sup>2</sup>

The analysis of Ari's speech shows that he has a clear merger in open syllables, and apparently no merger in closed syllables. Thus he can be said to have the two systems pictured in (8.2). And, somewhat remarkably, the open syllables have fewer distinctions than the closed ones:

## (8.2) a. Open syllables:

High	i		u
Mid	E [eɛ]/[ɪɛ]	Ö [øœ]/[ʏœ]	o [ʊɔ]
Low		a	

## b. Closed syllables:

High	i		u
Hig mid	ɪ	ʏ	
Low mid	ɛ	œ	ɔ
Low		a	

The *flámæli* as a phonological and historical phenomenon is thus a merger, basically involving abolition of the contrast between the long high mid vowels in the open syllable system, so that long /ɪ:/ and /ʏ:/ no longer exist as phonemes.

The characteristics shown in (8.2) confirm traditional descriptions of *flámæli* which state that it is most likely to occur in 'long' vowels, but less likely to affect 'short'

<sup>2</sup> This informant, who lived in the district of Lón in the south east of Iceland, took part in a special survey on phonological variation in Icelandic known as *RÍN* undertaken in the 1980s (see e.g. Thráinsson and Árnason 1992; Árnason and Thráinsson 2003; Árnason 2005a: 395–408). His actual name is different, but his ID number in the survey is AS39.

vowels (Guðfinnsson 1964: 81–2). And we may note that the resulting system in (8.2a) is more symmetrical than the ‘correct’ one described in section 4.1, since the number of oppositions in the front vowels has been reduced and is now the same as in the back vowels. But the interesting thing is that the closed syllable system is unaffected in the speech of this informant (and others).<sup>3</sup>

### 8.1.3 *The interplay of merger and diphthongization*

An example which sheds an interesting light on the interplay of the diphthongization described in section 8.1.1 and *flámæli* merger described in section 8.1.2 is the form *árið* ‘the year’, when pronounced by speaker Ari with a distinct stress or lengthening of the second syllable, which contains an /i/ in the ‘correct speech’. The context is a special emphasis (by ‘emphatic rephrasing’, cf. section 14.3.1) on the two syllables of the word at the end of an utterance as represented in (8.3):

- (8.3) *Það tók mig 'ár-ið*  
 It took me year-DEF  
 ‘It took me the (whole) year’

The emphasis was expressed by uttering the disyllable *árið* ‘the year’ as two stress feet, that is putting stress on the last syllable, as well as the first one. The actual form that emerges has a lowered and diphthongized second vowel: [‘au:’reeθ], with [eɛ:] corresponding to the written *i* (representing [i] in the normal ‘correct’ speech).

The pronunciation [‘au:’reeθ] tells us that the lowering has taken place in the final syllable of /au.rɪ.ð/, which is open by extrametricality, irrespective of actual duration or stress-related length. Thus even though the second syllable of the word is usually unstressed and therefore relatively short—it is normally not assigned a length mark in traditional phonetic transcription—it occurs in an open syllable in front of a final extrametrical consonant (cf. Chapter 9). It is thus not the actual length or duration of the vowel which conditions the lowering, rather the openness of the syllable. And, as shown in (8.2), vowels in closed syllables are exempt from the merger.

It is possible that what triggered the merger in open syllables was the diphthongization of the mid low vowels illustrated in (8.1), as in *sker* [sceɛ:ɾ] ‘reef’ and *flög* ([flʏœ:x] in the standard) ‘patch of ground without vegetation-PL’. This caused the mid low vowels to be closer in colour to the mid high ones in *skyr* ‘yogurt’ and *flug* ‘flight’. But essentially, the ‘slack-jawed speech’ must be classified as a spontaneous merger involving the abolition of phonemes.

<sup>3</sup> The structure described here is typical of informants whose speech has been recorded in actual interviews and analysed. As pointed out in Árnason (2005a: 408), it is possible that some speakers also had a merger in the short system, but there are no clear instances of such speakers on record. Because of the heavy stigmatization mentioned above, this dialect feature is now virtually extinct. As shown in Árnason (2003, 2005a: 395–409) and Árnason and Thráinsson (2003), it has been ousted by social forces in the twentieth century.



In less careful styles, the short diphthongs are thus monophthongized, so that the short variants merge phonetically with short variants of monophthongs, although this variation is sub-phonemic, as shown by the fact that clear short diphthongs can be realized in more careful styles. But as we shall see in the next section this monophthongization of short diphthongs has gone much further in Faroese.

A recent tendency in the MI short system is a lowering of short /ε/ in words like *bless* 'good-bye', *eldur* 'fire', and *blettur* 'stain', so that they are pronounced something like [plæs:], [æltʏɾ], and [plæhtʏɾ] or even [plas:], [altʏɾ], and [plahtʏɾ], beside the traditional [plɛs:], [ɛltʏɾ], and [plɛhtʏɾ]. In its extreme form this innovation leads to a merger with /a/ in words like *hlass* [las:] 'load', *aldur* [altʏɾ], 'age', and *skattur* [skahtʏɾ] 'tax'.

## 8.2 THE FAROESE VOWEL SYSTEMS

### 8.2.1 The polysystemic structure

The overview of the phonology of full syllables in Modern Faroese given in section 5.1.1. shows that the difference between the 'long' and the 'short' system is considerably greater than in Icelandic, as illustrated by the list of correspondences given in (5.1). We also saw that this time (unlike the slack-jawed speech system diagrammed in (8.2)), the number of options is smaller in the short environment than in the long environment, since some of the diphthongs share their short correlates with long monophthongs. Furthermore, it was shown in section 5.5 that Faroese has a separate set of restricted syllables, where the maximum opposition is that between /ɪ/, /ʊ/, and /a/. There is thus good reason to look on the vowel inventory of Faroese not as one system, but as a system of systems, in other words a diasystem.

This raises some interesting questions, the most obvious one being how to analyse the relation between the different (but presumably somehow related) subsystems. As shown in 5.1 the relation between the pairs of vowels occurring in the 'long' and 'short' environments is by no means accidental, since there are patterns as illustrated by the morphophonemic correspondences, and the long and short variants in related forms have things in common phonologically. And we would expect that the vocalic oppositions allowed in the restricted syllables, although limited, as shown in Table 8.1 below, have some relation to the systems allowed in less restricted environments.

Before attempting to describe the subsystems and their mutual relations, we should note that there are two aspects to the problem. One side of the problem has to do with the characterization of the sounds themselves: how are the individual parts of the different systems related? Does [œ] in *ljótt* 'ugly-NEUT' have something in common, melodically speaking, with the [ɔu] in *ljótur* 'ugly-MASC', and if so, what, and how should it be represented in the phonological analysis? Can we say that the former is some sort of reduced variant of the latter? And although the first and the second /a/ in MF *lampa* [lamp̥a] 'a lamp' belong to different subsystems, we may ask whether the



TABLE 8.1 The polysystemic structure of Faroese vowels

Open syllables	Closed syllables	Restricted syllables	Syncope
Monophthongs [i:] [u:] [e:] [y:] [ø:] [o:] [a:]	Monophthongs [ɪ] [ʊ] [ɛ] [ɣ] [œ] [ɔ] [a]	[ɪ] [ʊ]            [ə] [a]  *IMPURE COLOURS	*V-COLOUR
Diphthongs [ɛi:] [ɰu:] [ɔu:]/[œu] [ɔa:] [ɛa:] [ai:] [ui:] [ɔi:] [au:]	Diphthongs     [ai] [ui] [ɔi] ([au])  *IMPURE DIPHTHONGS		

*Note:* The table shows the gradient of freedom of choice regarding vocalic melodies in the three types of environment in Faroese. A hypothesis discussed in section 8.3 regarding the nature of the restrictions is expressed by the constraints \*IMPURE DIPHTHONGS, which forbids diphthongs which have constituents with mixed colours in the closed syllables, and \*IMPURE COLOURS, which forbids mixed vowel colours in the restricted syllables.

two [a]-sounds are in some sense instantiations of the ‘same’ linguistic unit, and if so what it is, and if not, then how they are different?

The other side of the problem of relating the subsystems is the question of the structural relation between the different environments. Since both the closed syllables and the restricted syllables limit the number of oppositions relative to the open syllables, we may ask whether these more restrictive environments have a common characteristic vis-à-vis the long environments in open syllables, where the full inventory of vowels appears. Basically, this can be posed as the question whether there is some sort of scale or cline on which the more restrictive and the less restrictive environments are to be ordered or categorized.

To recapitulate, the polysystemic structure of Faroese distinguishes between three types of environments for vowels with gradient reduction or restrictions in the number of oppositions allowed, as shown in Table 8.1.

To start with the segmental inventory, it is clear that attempting to devise a simple correspondence for the long vs short pairs, say based on common vocalic melodies, with a rule of vowel lengthening or mapping of length onto two morae in open syllables (or conversely shortening in closed syllables) is quite a venture. Although it might be (and has been) tried, it is no simple matter to relate pairs like *fúlur* [fðu:lɔɹ] ‘foul-M’ – *fúlt* [fʏlt] ‘foul-M’, or *tómur* [tʰɔu:mɔɹ] ‘empty-M’ – *tómt* [tʰœmt] ‘empty-N’, as long and short correspondents of the same vowel quality. If we were to say that [ʏ] is a short or monomoraic [ðu], or conversely that [ðu] is somehow a bimoraic realization of [ʏ], this would call for rather complicated measures of adjustment relating the long and short variants; and this would be even more complicated in the case of [ɔu] and [œ]. (For discussion and attempts at such analyses see O’Neil 1964; Taylor 1973; Árnason 1976; Anderson 1974; Thráinsson et al. 2004: 30–7.)

Whatever measures are taken about the representation of the correspondence between the ‘long’ and ‘short’ pairs, a decision has to be made whether to describe the relation in terms of morphophonemics or in purely phonological terms. And all in all, there seems to be good reason to abandon the historically based phonological view and to think in terms of morphophonemics. But, on the other hand, assuming phonologically unrelated systems would seem to be throwing the baby out with the bathwater, since it would mean, for example, that the phonological similarity between the long and short in /ui/ in *hvítur* [kfɔi:tɔɹ] ‘white-M’ and *hvítt* [kfɔiʰt:] ‘white-N’ or the tense [i:] and the lax [ɪ] in *linur* [li:nɔɹ] ‘soft-MASC’, *lint* [lɪnt] ‘soft-NEUT’, would not be accounted for, and we would seemingly be multiplying entities beyond reason. What we need is some sort of means to relate the long and the short variants, accounting for the neutralization in the more restrictive environments, that is the closed syllables, and conversely the abundance of distinctions in the long system in open syllables. And preferably the restricted syllables should be included in the general picture, since it would seem to be an undesirable complication in the analysis to represent the reduced vowels by means of a fundamentally different alphabet from the one used in the other system.

As mentioned above and as shown in Table 8.1, the long–short correspondence is not one to one, and, as indicated by the arrows, morphophonemic correspondences suggest that some ‘long’ diphthongal nuclei share their short correspondents with other (monophthongal) vowels. On the basis of this and the fact that the short variant [ʏ] in *fúlt* [fʏlt] ‘foul-NEUT’ (which also functions as a short correspondent of [y:] in *mytisk* [my:tisk] ‘mythical’, e.g. in *mystisk* [mʏstisk] ‘mysterious’) has things in common with its long correspondent [ðu:] in *fúlur* [fðu:lɔɹ] ‘foul-MASC’, it seems sensible to assume that it has some phonological relation to [ðu], as being somehow ‘less of the same’. And on similar grounds it would seem that lax [ɛ], which functions as a short correspondent of long [ei:] as well as [e:]/[ee:], has phonological characteristics in common with its long correspondents.

There is one exception from the left–right convergence or neutralization in the short environment so that the short nucleus is ‘less of the same’ relative to the long one, namely in the case of the correspondence regarding [ɔu] in *tómur* ‘empty’, which in the handbooks is usually said to have a front short correspondent [œ] in the Tórshavn variety: *tómt* [t<sup>h</sup>œm̥t] ‘empty-NEUT’. The irregularity is that the short correspondent has a front character, but the long one is fully back. But as noted above, there are varieties where the correspondence is more regular. Thus in the southern parts, the correspondence is [ɔu] – [ɔ], that is back vowels in both cases, and in northern parts it is [œu]/[ɛu] – [œ].

In my observations the quality of the diphthong in *stórrur* ‘big’ varies quite a bit, and it seems in fact that it is not fully back for all Tórshavn speakers. Thus informant T-1, who was brought up in the Tórshavn area, has a central first component in the long *ó*: *stórrur* [støu:ɹʊɹ] ‘big’; but T-36, who was brought up in Runavík in Esturoy has an unrounded first component: [stɛu:ɹʊɹ]; and then there are speakers who have a front rounded first constituent: [œu]. For both T-1 and T-36 the short correspondent in words like *folk* [fœlk] ‘people’ is front rounded, and this seems to be the most common form of the short vowel.

The present-day Tórshavn speech represents a mixture of patterns when it comes to the long vs short correspondences, and it is significant that the long nucleus in *stórrur* ‘big-MASC’ and the short one in *stórt* ‘big-NEUT’ form independent phonological variables. This suggests that the structural relation between them as linguistic units is not a tight one; that the long and the short variants are not representatives of one and the same underlying or abstract unit.

### 8.2.2 *On prominence*

As regards the different environments, those of maximum opposition vs neutralization, it has been pointed out that there is an inverse relation between ‘prominence’ and neutralization, in that neutralization takes place in less prominent positions. Thus, discussing vowel reduction in unstressed syllables, Harris (2005b: 128) notes that ‘[t]he flow of phonetic information across speech signals is uneven’, and that ‘[t]alkers direct listeners’ attention to prominent positions by selectively increasing and [decreasing] the amount of attention they devote to production’ (2005b: 131–2). And thus ‘[t]he overall communicative effect is to modulate attention across speech signals . . . the occurrence of hypoarticulated weak positions enhances the prominence of intervening strong positions.’ And: ‘[p]ositionally sensitive vowel reduction, like consonantal lenition, can be understood as accentuating the syntagmatic contrast between information-heavy prominent syllables and information-light weak syllables.’ An important point made here is that such reduction may be ‘part of planned speech behaviour rather than an accidental by-product of vocal-organ inertia’ (2005b: 132). (In articulatory terms phonetic factors, such as ‘target undershoot’ in weak positions or ‘vocal organ inertia’, have been mentioned as physical explanations.)

Central to the conception of prominence described above is the idea that some places in the phonetic string somehow carry more information than others. Another

characteristic is the functional orientation in that the parameters are directly related to linguistic performance and communication. But it seems that the close connection between prominence and amount of information creates a chicken and egg problem. Are the strong places more prominent because they carry more information, or do they carry more information because they are more prominent? And how do these relations become part of linguistic structure? Some clarification seems to be needed to avoid circularity.

The concept of prominence and the '[modulation] of attention across speech signals', to paraphrase Harris, is essentially functional, and we can thus talk of **functional prominence**. In fact Harris's observations sound commonsensical, but the question facing the phonologist seems to be rather more complex, namely how such organization in the speech signal becomes phonologized, in the sense that it becomes part of the phonological **structure** of an individual language rather than purely conditioned by pragmatic use or some general phonetic or semiotic laws. The question facing us is to what extent this characteristic of Faroese phonology is structurally relevant, and how it should be pictured in something which we might call a representation of phonological structure.

The most obvious 'linguistic' or phonological correlate of prominence of the sort referred to above is a rhythmic one, that is stress in a broad sense, meaning word stress (defining stress relations between syllables in words) and sentence stress or accent (defining strength relations between words in phrases). But it is also possible to refer to other kinds of prominence, for example based on constituent structure within smaller constituents like the syllable, as is often done in referring to headedness or strong-weak relations between constituents within syllables and perhaps most importantly the number of options available at each place in the signal.

We saw in section 5.5 that those syllables which have a reduced vowel system, corresponding to the Old West Nordic unstressed vowels /ɪ/, /ʊ/, and /a/, have a limited phonological repertoire. But there is a further distinction between different types of Faroese syllables, which is that although all restricted syllables are weak, they are not equally weak. Thus the final syllable of *maðurin* [mɛa:ʊðɪn] 'the man' is classified in traditional Faroese phonology as *levis*, that is rhythmically stronger than the middle one, which is called *levissimus*.

As explained in Chapter 5.5 the four degrees of stress in Faroese can be analysed by referring to both phonotactics and rhythm. And we can characterize the two dimensions, giving the four values, so that the phonotactic dimension defines information structure, and the second dimension the rhythmic value. There is a phonotactic difference between full syllables and restricted syllables, and members from each category can be rhythmically strong or weak according to the environment. The restricted syllables are **informationally weak**, whereas the relative weakness according to environments can be called **rhythmic weakness**. In terms of the distinction between phonology and phonetics, the former dimension is a phonological or phonotactic one and the latter a phonetic one.

As we saw in section 5.5.2, the main trend on the phonetic scale of reduction for the restricted syllables is the one shown in (8.5):

$$(8.5) \quad \begin{array}{ccccc} 1 & & u & & 3 \\ & & \Rightarrow & & \Rightarrow \text{ə (?) } \Rightarrow \emptyset \\ a & & & & a \end{array}$$

It was shown that restrictions in the oppositions mainly apply in three dialect areas: Suðuroy, Norðuroyar (including Klaksvík), and parts of Streymoy. The tendency for merger seems to be most marked before /r/ and in open final position, for example in forms like: *gørdur* [tʃɛ.ɪtʃɪ] ‘done’; *tíðir* [tɔijʃɪ] ‘times’; *útsynningi* [ʊs:ɪnɪɲɔŋɔ] ‘south-west wind-DAT’. But the distinction is more likely to be maintained when a nasal follows, as in *manninum* [mannɪnʊn] ‘the man-DAT-DEF’. It seems that the details of this development show that the last two stages in the development are phonetically conditioned, and we have seen that the variation is sensitive to style.

### 8.3 THE ELEMENT ANALYSIS OF REDUCTION: LIMITS ON INFORMATION IN RESTRICTED ENVIRONMENTS

We saw that the general trend for reduction in the weak positions can be seen as ‘information loss’ in the relevant places in the speech signal, and correspondingly constraints against vocalic complexity, which are stricter in the neutralizing environments, allow less information than in the environments of maximum distinctions. Another metaphor, more in the spirit of current trends in synchronic analysis in terms of Optimality Theory, is to see this in terms of limits on complexity (e.g. as conformity to a constraint like \*COMPLEX). Thus it is easy to represent the limits of distinction in the restricted syllables to the colours /ɪ/, /ʊ/, and /a/ and a limit on complexity in unstressed syllables to the simple elements I, U, and A.

In theoretical frameworks like Optimality Theory (OT), the phonological organization is determined by the (re)-ranking of constraints. But in a more traditional view, the question is seen as one regarding the number of phonemic oppositions available in the relevant positions. The weakness of the restricted syllables in Faroese and their further reduction due to rhythmic or phonetic conditioning can be seen as the result of a combination of these informational restrictions and rhythmic conditions.

It is perhaps a more interesting question whether or how we should capture the relation between the long and the short system in stressed syllables. Since fewer distinctions are allowed in the closed than in the open syllables, there are distinctions in the open environments which are neutralized in the closed syllable environments. Thus we have seen that the opposition between [ɔu] or [œu] as in *stóruv* [stɔu:.ɪʊɪ] ‘big’ and [ø:] in *døma* [tø:.ma] ‘to judge, pass sentence, argue’ is neutralized as [œ] in *stórt* [stœ.ɪt] ‘big’ and *dømt* [tœm.ɪt] ‘to judge-PAST.PART’. Should we then say that the short vowel environment is in some sense a ‘weak’ position? In fact, seen in terms of element structure, it appears that there is some ‘information loss’ in the relation between the open syllable where a diphthong is allowed and the closed syllable where it is not permitted.

Table 8.1 (p. 136) shows a cline of decreasing contrast possibilities from left to right, or conversely a cline of increasing possibilities for contrast from right to left. And in many cases it is possible to set up pairs of correspondences between the long and short systems, so that there is a subset correlation in that the short correspondents have the same or less of the same information, represented in terms of elements, relative to the long correspondents, as we see in (8.6):

(8.6)	Open syllables	Closed syllables
A	{U}+{I}: / <i>vi</i> / <i>hvítur</i> 'white' {I, A}+{I}: / <i>ei</i> / <i>deyður</i> 'dead' {A}+{I}: / <i>ai</i> / <i>feitur</i> 'fat' {U, A}+{I}: / <i>oi</i> / <i>gloyma</i> 'to forget'	{U}+{I} / <i>vi</i> / <i>hvítt</i> 'white-NEUT' {I, A} / <i>ei</i> / <i>deytt</i> 'dead-NEUT' {A}+{I} / <i>ai</i> / <i>feitt</i> 'fat-NEUT' {U, A}+{I} / <i>oi</i> / <i>gloymdi</i> 'forgot'
B	{I}+{U}: / <i>au</i> / <i>fúlur</i> 'foul' {U, I, A}+{U}: / <i>œu</i> / <i>tómur</i> 'empty' [œu], [εu] {U, A}+{U}: / <i>ou</i> / <i>tómur</i> 'empty' [ou] {A}+{U}: / <i>au</i> / <i>august</i> 'August', <i>navn</i> 'name'	{I, U} / <i>ɣ</i> / <i>fúlt</i> 'foul-NEUT' {I, U, A} / <i>œ</i> / <i>tómt</i> 'empty-NEUT' {U, A} / <i>ɔ</i> / <i>tómt</i> 'empty-NEUT'
C	{U, A}+{A}: / <i>ɔa</i> / <i>vátur</i> 'wet' {I, A}+{A}: / <i>εa</i> / <i>dalur</i> 'glad'	{U, A} / <i>ɔ</i> /, / <i>a</i> / <i>vátt</i> 'wet-NEUT' {A} / <i>a</i> / <i>dalsbotnur</i> 'end of a valley'

As mentioned in Chapter 5 (except for some marginal instances of [au]) the only diphthongs allowed in the short environment are i-diphthongs, where the same melodic information occurs in the short environment. In other cases it can be said that the short alternants are 'less of the same' in terms of element material relative to the long variants. In the case of historical *ó* in *tómur* – *tómt* 'empty', there are two paradigms, a front one: /*œu*/ – /*œ*/, and a back one: /*ou*/ – /*ɔ*/ . In both cases the short variant is 'less of the same', even though for some speakers the paradigms may be mixed, as we have seen.<sup>4</sup>

It is thus possible on the whole to see the relation between the long and the short environments as a limitation of informational complexity or, historically speaking, as a loss of information in the short environment. The short system is less complex than the long one, in that there are fewer options and that the units are simpler. This is clearly reflected in the element notation shown in (8.6), in the number of applications of the symbols I, A, and U and the relational symbol '+', which symbolizes

<sup>4</sup> It is an interesting question whether this mixing of dialects or non-convergence of the isoglosses should be taken as some sort of evidence regarding the type of structure involved. The fact that the variants of the short and long counterparts do not have the same areal distribution can perhaps be taken as witnessing their lack of structural connection, i.e. that the alternation between the long and short variants has become fully lexicalized.

diphthongs. The representation of the diphthong / $\epsilon i$ / in *deyður* 'dead' {I, A}+{I} is more complex than {I, A}, which represents the / $\epsilon$ / in *deytt* 'dead-NEUT', etc.

It is also worth noting that with one exception the diphthongs which do occur in the short environments are 'pure diphthongs' in our sense (section 3.5), that is each of the constituents is composed of one element. There is one exception to this generalization, namely the diphthong [ɔi] in *royndi* [ɾɔɪntɪ] 'tried'. This is an interesting exception and can perhaps be understood in the light of another peculiarity in Faroese phonology, which is that in some dialects, there is no /ai/ diphthong in the traditional vocabulary. In the whole northern area, words like *feitur* 'fat' and *steinur* 'stone' have a rounded [ɔi]: [fɔitur], [stɔi:nʊɪ]. A possible interpretation of this is that the U-element (rounding or Rump) is extra strong in the system of these varieties, so that /ai/ and /ɔi/ are equally unmarked as diphthongs or else, given the extraction of rounding into the general articulatory setting, /ɔi/ would be a 'pure' diphthong. But as noted above (section 5.1.1), new forms with /ai/ have been borrowed into the northern varieties, which means that the present-day situation should presumably not be interpreted in this way, although at an earlier stage, this may have been the case, namely that the rounded variety had a more rounded general articulatory setting. And in general, there is quite a bit of borrowing between dialects, which shows that the phonological patterns in question are manageable on the lexical level rather than being purely phonetic.

The restricted syllables seem to behave as expected, since in those varieties which maintain a three-way distinction, there are no impure vowels.

#### 8.4 CONCLUSION: SYSTEMIC RELATIONS IN VOWEL SYSTEMS

We have seen that both Icelandic and Faroese show tendencies to the effect that the vowel systems in open syllables and in closed syllables 'drift apart' so that the length correlation becomes less regular. But the manner in which the two systems go their separate ways is different in the two languages. In the case of Faroese, the general theme is that (in some sense) less prominent environments like closed syllables and restricted syllables call for neutralization. The tendency in Icelandic is more ambiguous. The diphthongization of the long mid low vowels in open syllables and the monophthongization of short diphthongs seem to be of essentially the same kind as the parallel changes in Faroese. But the merger in open syllable vowels in the *flámæli* dialect goes the other way, since there seems to be a neutralization in open syllables. However, it is well known that vowel mergers can take place in prominent syllables (in both long and short vowels), so that as such the merger is nothing to get too excited about. As suggested above, the merger of the mid high and mid low vowels can be seen as a normal vowel merger, most likely triggered by the diphthongization of long open vowels. The fact that the same thing does not take place in closed syllables suggests that there are two different systems, and the fact that the closed

syllable system is in some sense more stable in Modern Icelandic raises interesting questions, which need further scrutiny.

Another important difference between the languages lies in the fact that Faroese, and not Icelandic, distinguishes between two types of syllable, which may be an inheritance from Common West Nordic. This involves neutralization of vocalic melodies, since the contrasts allowed in the restricted syllables are significantly fewer than in the full syllables, and further reduction occurs in many varieties.

We have briefly discussed the relation between prominence and neutralization. From the semiotic perspective, neutralization as a historical or synchronic process is a 'reduction' of information, and as a static or synchronic phenomenon it involves a restriction against too much information in the neutralizing environments. For a full understanding of these relations we need to define the environments where neutralization is in force, and the character of the neutralization in terms of differences in melodic information. These issues will be dealt with in the next two chapters. In Chapter 9 we will be looking at phonotactics and syllable structure, and in Chapter 10 we will look at the problem of how to represent accentuation in relation to this syllable structure, involving strengthening of some parts of the signal, and weakening of others.



## SYLLABLE STRUCTURE AND PHONOTACTICS

The account given above shows clearly that for both Icelandic and Faroese, the difference between the system of vowels in the ‘long’ and the ‘short’ environments is not a simple matter of length. This is more obvious in the case of Faroese, where not only the quality, but also the number of vocalic oppositions are melodically quite different (cf. pairs like *fúlur* [fau:lʊɹ] ‘foul-M’ vs *fúlt* [fʏlt] ‘foul-M’ and *tómur* [tʰɔu:mʊɹ] ‘empty-M’ vs *tómt* [tʰæmt] ‘empty-N’, etc.). But we have also shown similar emergent differences in quality in the Icelandic systems, for example the tendency for diphthongization of some of the long vowels and the monophthongization. The ‘slack-jawed speech’ discussed in section 8.1.2 also contributes to this dichotomy between systems, although in a different way from the diphthongization in long environments and the reduction of short diphthongs.

In this chapter, we will have a closer look at systemic relations in the two languages in the light of higher phonological constituent structure: syllables and syllabic constituents, feet and phonological words. The main theme will be differences in the segmental options available in the different environments, different types of syllable (full or restricted), and different subsyllabic constituents (onset, rhyme, coda, etc.). It will be proposed that there are, for both vowels and consonants, clines of decreasing structural prominence from positions allowing the greatest number of oppositions to those allowing a minimum of opposition.

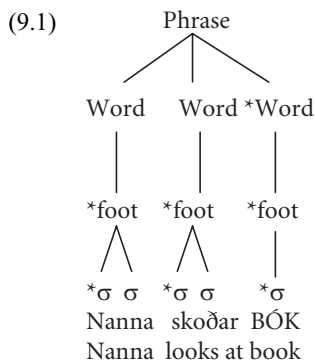
### 9.1 SYLLABLE STRUCTURE IN ICELANDIC

Starting with Icelandic, in this section we will look at the motivation for the syllable as a relevant layer of analysis in the phonological hierarchy and its internal structure. Then we will move on to consider the character of the so-called length rule as determined by syllabification, and the way this syllabic structure connects with length and accentuation, paving the ground for further analysis in Chapter 10. (For discussion of some of the problems treated here, see Gussmann 2001, 2006.)

#### 9.1.1 *Motivating the syllable*

The motivation for assuming the syllable as a significant unit (or domain) in the phonological hierarchy of Modern Icelandic is both external and internal.

Seen from outside, syllables form constituents in larger structures, stress-feet, words, and phrases. Typical native forms like *Nanna* ‘proper name’, *skoðar* ‘looks at, investigates’, and *bók* ‘book’ can form a phrase in the manner shown in (9.1):



Here, three layers in the phonological hierarchy are pictured above the syllable, namely *foot*, *word*, and *phrase*, and the layers are consistent with the ‘strict layer hypothesis’ in that each constituent contains subconstituents from the next lower level. A foot consists of one or more syllables, and a word consists of one or more feet. Longer words, typically compounds, may have secondary stresses. Thus compound forms like *‘hafra,grautur* ‘porridge’ (literally *hafra* ‘oat-GEN’ *grautur* ‘pudding’) and *‘voða,legur* ‘terrible’ (literally: ‘danger-like’), have secondary stresses on the second constituent, as shown in (9.2):<sup>1</sup>

- (9.2) a. *Nanna borðar ‘hafra,graut*  
          ‘Nanna eats porridge’  
      b. *Hann er ‘voða,legur*  
          ‘He is terrible’

This we interpret so that a word may have more than one foot, and that the strongest foot within the word contains the word stress. The strongest syllable in the strongest word in the phrase (the Designated Terminal Element—DTE) is the place of sentence stress or nuclear accent. (See section 14 for further discussion.)

### 9.1.2 The subsyllabic constituents

In our analysis of the subsyllabic structure of Modern Icelandic (in the ‘New Order’ in syllabic quantity, cf. section 2.3 p. 20) we will build on an insight from the analysis proposed by Einar Haugen (1958). Haugen proposed classifying the stressable or accented parts of syllables in MI according to whether the consonant following the

<sup>1</sup> Similar secondary stresses can be found in noncompounds or pseudo-compounds like *‘alma,nak* ‘almanac’ although the morphological motivation is lacking, see section 13.1.

vowel is subsumed under the accent or not. He thus defines what he calls the ‘nucleus’ of the syllable as a part of an actual utterance, as the place where the lengthening and tonal distinctions that come with the accent are realized. In Haugen’s view, these nuclei are of two types: vocalic (V:) or consonantal (VC), as illustrated in (9.3):

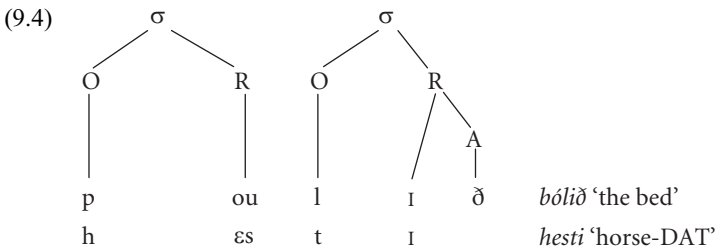
- (9.3) Vocalic nucleus                      Consonantal nucleus  
*koma* [k<sup>h</sup>(uɔ:)ma] ‘to come’    *hestur* [h(ɛs’)tʏr] ‘horse’

The great advantage of Haugen’s idea is that it predicts, correctly it seems, the actual durational and intonational consequences of accentuation in utterances. The accents have a clear realization in the form of pitch movements and in increased duration, as we shall see more clearly in Chapter 10 and Chapter 15. And crucially, the lengthening which comes with the accent is placed at the end of Haugen’s ‘nucleus’, as shown in (9.3). In the case of a vocalic ‘nucleus’, as in *koma* [kɔɔ:ma] ‘to come’, the vowel is lengthened, but in the case of a consonantal nucleus, as in *hestur* [hɛs’tʏr] ‘horse’, the consonant is lengthened, creating what in traditional descriptions has been called ‘half length’ (see section 9.1.4).

Translating Haugen’s insight into more familiar notation, the syllable phonotactics of Modern Icelandic can be described in terms of the following constituents:

- *Onset*: the set of consonantal sequences allowed at the beginning of a syllable;
- *Rhyme*: the rest of the syllable, i.e. the vowel and following consonants, consisting of the vowel and eventual coda consonants;
- *Appendix*: extrasyllabic consonants, i.e. falling outside the rhyme but which may be associated with the preceding syllable.<sup>2</sup>

The syllabic structure is illustrated in (9.4), applied to the word forms *bólið* /poulið/ ‘the bed’ and *hesti* /hesti/ ‘horse-DAT’:



<sup>2</sup> The actual labels used here and in the tree in (9.1) are basically descriptive (or pre-theoretic); no claim is made to formal exhaustiveness. In fact it would make no difference to this analysis if we were to agree with those who claim that the syllable is not a primitive unit in the universal phonological alphabet (cf. e.g. Gussmann 2007: 22). The facts described here can easily be rephrased with such more ‘parsimonious’ notation, e.g. assuming that the nucleus is directly visible to the stress rules, without the syllable as an intermediate node in the tree. In an earlier account (in Icelandic) in Árnason (2005a) Haugen’s terminology is borrowed and translated into Icelandic, so that the Icelandic word *kjarni* (nucleus) is used to refer to Haugen’s ‘nucleus’. This part of the syllable corresponds to what is here called the Rhyme.

In *bólið*, which in isolation may have the output form [pou:lɪθ], the first syllable is open (has a vocalic ‘nucleus’ in Haugen’s terminology), and the second syllable is also open, with the final consonant extrasyllabic (extrametrical), which is represented in the tree by placing it in an Appendix. This consonant is then free to form an onset to a following syllable starting with a vowel, as in phrases like ...*fer í bólið á kvöldin* [...’fɛ:ri.pou:lɪ.ðau.k<sup>h</sup>vœltɪn] ‘goes to bed at night’. Here the final /r/ of *fer* /fɛ:r/ ‘goes’ forms an onset to the following *í* ‘in’ in *fer í* ‘goes in’, giving [...fɛ:ri...] and the /ð/ of *bólið* may form an onset to the preposition *á*, giving: [pou:lɪ.ðau] for ...*bólið á*..., etc.

In the normal word stress pattern, the initial syllable of a word takes the word stress, lengthening the vowel in open rhymes like in *bólið*, but the consonant, giving ‘half length’ (cf. section 9.1.4 below) in the closed rhymes like *hesti*, as shown in (9.5), where these words contain the nuclear accent:

(9.5) *Hann fór í BÓLIÐ* [pou:lɪθ]

‘He went to BED’

*Hann kemur á HESTI* [hes’tɪ]

‘He comes on horseback’

Further illustration of the syllable structure of Icelandic words is seen in (9.6):

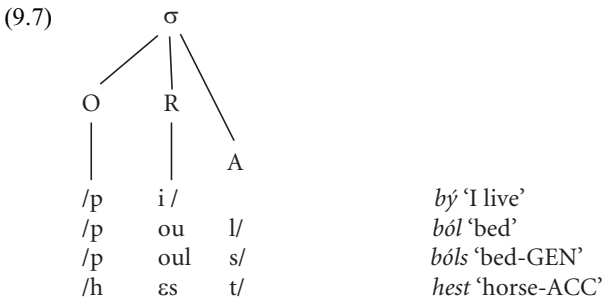
(9.6)

$\begin{array}{c} \sigma \\ \swarrow \quad   \quad \searrow \\ O \quad R \quad A \\   \quad   \quad   \\ \text{---} \quad \text{---} \quad \text{---} \end{array}$		$\begin{array}{c} \sigma \\ \swarrow \quad   \quad \searrow \\ O \quad R \quad A \\   \quad   \quad   \\ \text{---} \quad \text{---} \quad \text{---} \end{array}$		
/t <sup>h</sup>	a	l	a/	<i>tala</i> ‘to talk’
/v	al	t	a/	<i>setja</i> ‘to place’
/h	ɛs	t	ɪ	n/ <i>hestinn</i> ‘the horse’
/h	ɛs	t	s	ɪn s/ <i>hestins</i> ‘the horse-GEN’
/s	ys	t	k	ɪ n/ <i>systkin</i> ‘siblings’
/h	ɔl	t	g	as t/ <i>holdgast</i> ‘to incarnate’
/t <sup>h</sup>	el	k	d	ɪ / <i>telgdi</i> ‘carved’
/r	as	p	s	ɪn s/ <i>raspsins</i> ‘the file-GEN’
/kv	öl	t	s	ɪn s/ <i>kvöldsins</i> ‘the evening-GEN’
/Ø	yr	ð	l	ɪn k/ <i>yrðling</i> ‘fox cub’
/l	ɛm	s	tr	a/ <i>lemstra</i> ‘to mutilate’

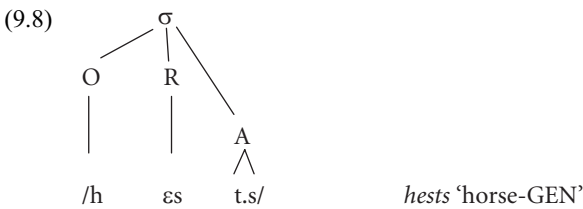
The words shown in (9.6) are all disyllabic, and as can be seen, intersyllabic clusters can be quite complex in MI, containing up to four consonants. Thus in word forms like *hes.t.sin.s* and *sys.t.ki.n* we have three consonants in the interlude, the first of

which forms part of the rhyme, and the last the onset to the second syllable. The intervening and final consonants, labelled as Appendices, are extrasyllabic.

A comparable representation is given in (9.7) for monosyllabic word forms like *bý* 'I live', *ból* 'bed', *bóls* 'bed-GEN', and *hest* 'horse':



When it comes to even more elaborate final clusters, as in e.g. *hests* 'horse-GEN', the additional consonants simply form extensions to the Appendix:



### 9.1.3 The Icelandic length rule

Part of the motivation for the syllable as a unit in the phonology of Icelandic derives, as we have seen, from the fact that it can be used to model the distribution of long and short vowels, and indeed the traditional formulation of the so-called length rule in Modern Icelandic is that the length of vowels is predictable on the grounds of syllabic structure. The general rule is that long vowels occur in open syllables, but short vowels appear in closed syllables, as shown in (9.9):

- (9.9) *fara* [fa:.ra] 'go'  
*hestur* [hes.tʏr̥] 'horse'

Long vowels also occur before single or short word final consonants, as in *man* [ma:n] 'young lady', cf. disyllabic *mani* [ma:nɪ] 'young lady-DAT', and an opposition exists between such forms and forms with short vowels followed by long consonants: *mann* [man:] 'man-ACC' and *manni* [man:i] 'man-DAT'. In accordance with the orthography, the underlying distinction has traditionally been assigned to an underlying opposition between single and double consonants, as shown in (9.10),

analysing the interlude in forms like *manni* as a geminate and with closed syllables and extrasyllabicity of the second consonant in the monosyllabic *mann*:

- (9.10) *man* /ma.n/ [ma:n] ‘young lady-ACC’  
*mann* /man.n/ [man:] ‘man-ACC’  
 vs  
*mani* /ma.ni/ [ma:ni] ‘young lady-DAT’  
*manni* /man.ni/ [man:i] ‘man-DAT’

The opposition between short and long consonants (geminate and singletons) is neutralized between a short vowel and a consonant. Thus the past tense of *kenndi* [cɛn’ti] ‘taught’ (from *kenna* [c<sup>h</sup>ɛn:a] ‘to teach’ – *kennir* [c<sup>h</sup>ɛn:ɪɾ] ‘teaches’ with ‘double *n*’ in the stem) rhymes with *vendi* [vɛn’ti] ‘trained-SUBJ’ (from *venja* [vɛnja] ‘to train’ – *venur* [vɛ:nyɾ] ‘trains’ with a ‘single *n*’ in the stem), both with half length on the consonant. Similarly the past tense *kyssti* [c<sup>h</sup>ɪs’ti] ‘kissed’ from *kyssa* [c<sup>h</sup>ɪs:a] ‘to kiss’ (with a geminate) rhymes with *listi* [lɪs’ti] ‘a list’. This neutralization also means that the genitive of *mann* ‘man’, with a geminate in the nominative, has ‘half length’, rather than full length on the postvocalic consonant: *manns* [man’s] ‘man-GEN’ (cf. 9.10).

The relation between syllable structure and vowel length is further confirmed by the length rule traditionally formulated in the manner shown in (9.11), which defines a set of exceptions from the main rule that only one consonant follows an open syllable:

- (9.11) Vowels are long before plosives /p, t, k/ and /s/ followed by /v, j, r/:  
*neþja* [neɛ:.pja] ‘cold weather’  
*tvisvar* [t<sup>h</sup>vi:.svaɾ] ‘twice’  
*titra* [t<sup>h</sup>i:.tra] ‘to vibrate’  
*sebra(hestur)* [seɛ:.pra] ‘zebra’  
*setja* [seɛ:.tja] ‘to set, to place’

Here the clusters following the long vowels form branching onsets to following syllables, leaving the initial syllables open, as indicated in the transcription, and in later analyses this has been related to general principles such as SONORITY SEQUENCING and SYLLABLE CONTACT (cf. Gouskova 2004; Ingason 2008). Thus according to the length rule the least sonorous or ‘strongest’ consonants, the plosives /p, t, k/ and the sibilant /s/, form word-internal onsets across the relatively sonorous /v, j, r/. We will return to the character of the length rule and its relation to syllable structure and preaspiration in Chapter 11 below.

#### 9.1.4 Half length and overlength

It has been mentioned that in traditional accounts of Icelandic phonetics, consonants following short vowels, that is in forms like *hestur* ‘horse’ or *manns* ‘man-GEN’, have been characterized as ‘half long’ and transcribed: [hɛs’tʏɾ], [man’s]. This phenomenon has long been noted by phoneticians (cf. e.g. Ófeigsson 1920–24: xix; Einarsson 1927: 77; Guðfinnsson 1946: 69), without being properly tackled in

phonological analysis. But Haugen's analysis from 1958, on which we build here, captures this phenomenon nicely. As will be further demonstrated in Chapter 10 the half length is directly connected with the realization of stress, so that there is a correlation between the strength of the accent and the lengthening of consonants following short vowels.<sup>3</sup>

Another complication in the story about length and syllabification in contemporary Icelandic is illustrated by the examples in (9.12):

- (9.12) a. *man* [ma:n] 'young lady'    *mans* [ma:ns] 'young lady-DEF.GEN.SG'  
 b. *mann* [man:] 'man-ACC'    *manns* [man's] 'man-DEF.GEN.SG'

In the genitive form *mans* [ma:ns] in (9.12a) we have an 'overlong' syllable, that is a long vowel followed by a cluster which normally would form a coda + onset construction, calling for a short vowel. The long vowel in the genitive form is obviously borrowed from other forms in the paradigm, such as the nominative *man* [ma:n] 'young lady-NOM' and the dative *mani* [ma:ni] 'young lady-DAT'. As a result of this, the form *mans* [ma:ns] contrasts with *manns* [man's], which has a short vowel like the accusative *mann* and a half long consonant. A similar effect can be seen in variant phonological realizations of forms like the genitive *ships* 'ship-GEN', which may have a phonologically normal short vowel: [scɪps]/[scɪfs], or a long one [scɪ:ps], borrowed from other case forms like *skip* [scɪ:p] 'ship-NOM' or *skipi* [scɪ:pi] 'ship-DAT' with a long vowel. (See Hall 2005 for a treatment of similar phenomena in German.)

In both cases the overlength is due to analogical levelling, so that long vowels which (according to the length rule) are phonologically appropriate in other case forms, like *mani* [ma:ni] 'young lady-DAT' and *skipi* [scɪ:pi] 'ship-DAT', are borrowed into short environments. (In OT terms we are dealing with a case of 'output-output correspondence', cf. Benua 1995). No half length is to be found after the long vowels of forms like *ships* 'ship-GEN' and *mans* 'young lady-GEN' in (9.12a).<sup>4</sup>

This phenomenon, which will be further discussed in section 10.1.3, is reminiscent of a well known characteristic of Norwegian and Swedish varieties. Witness Norwegian forms like *vist* [vi:st] 'shown' from the verb *visa* 'to show', and Finland Swedish *vikta* [vi:kta] 'folded-PL' (cf. Kiparsky 2008). It will be shown in section 9.2.3 below that Faroese also has a similar phenomenon.

The existence of overlength opens up the question of the very validity of the length rule in the modern languages. One interpretation of these examples is that in spite of

<sup>3</sup> In a sample utterance (my own) of the phrase: *Veistu um HESTINN?* 'Do you know where the horse is?', measurements show that in the nuclear *hestinn* [hes.tɪn] the length of [ɛ] is about 85 ms, whereas the [s] is about 150 ms. In the non-nuclear *veistu* [veis.ty] the [ei] is about 81 ms, and the [s] is about 83 ms. A similar phenomenon, lengthening or geminating consonants after short vowels, has been noted for varieties of Swedish (cf. Kiparsky 2008), as in *vissna* [vis:na] 'to wilt'.

<sup>4</sup> In a sample instance of the form *manns* 'man-GEN' in final (focal) position the [n] following the short vowel is about 220 ms (and the vowel about 100 ms), whereas the [n] in *mans* [ma:ns] 'young lady-GEN' in the same position with similar stress is about 120 ms, and the vowel about 220 ms.

the regularity dictated by the length rule, the opposition between long and short vowels has become phonemic, a question to which we will return in Chapter 10. Another question which arises is how to syllabify the final consonants in forms like [sci:ps] and [ma:ns]. The simple answer seems to be to take them as extrasyllabic and represented as: /sci.p.s/, /ma.n.s/. It may be noted that from a general perspective, the overlong forms increase the number of open syllables at the cost of closed ones.

### 9.1.5 *Emphatic stress on non-initial syllables*

Before moving on, one further fact about Modern Icelandic phonological constituency should be noted. We have seen that under normal conditions the first syllable of the last word forms the ‘designated terminal element’ of an utterance. We also saw that in longer forms, such as the compound *hafragrautur* ‘porridge’ and *voðalegur* ‘terrible’, a secondary stress is normal on the third syllable: [‘hav.ra ,krœy.tʏr], [‘voð.ða.,lɛ.ʏr]. Thus, initial syllables of lexical forms normally take the main word stress. But these lexical strength relations between syllables and feet may be overruled by what we will here call ‘emphatic rephrasing’. As further described in section 14.3.1, in certain styles of utterance, right-strong phonological constructions can be formed out of forms which are normally left strong, as shown in (9.13):

- (9.13) *Hann er voða-’LEGUR*  
 [hanevoðaða’lɛ:ʏr]  
 He is terr-IBLE  
 ‘He’s really terrible’

Due to this phonological ‘reorganization’, the last foot becomes the strongest.

And this phenomenon is not limited to compounds, since, as we saw in section 8.1.3 (p. 133), even inflectional endings can be separated from their stem and stressed, as in (9.14), which is the same as (8.3):

- (9.14) *Það tók mig á-RIÐ*  
 [ . . . . ‘au’reɛ:θ]  
 ‘It took me the whole year’

The last words in (9.13) and (9.14) have been split into two phonological words, which by implication means that each syllable can form a stress foot. The second of these can then take the nuclear accent and form the DTE of the utterance, that is, the strongest syllable of the utterance. Although this phrasing is marked, it still has to be accounted for phonologically, and from the point of view of our analytic tools, the simplest way is to assume that the words are split up into two phonological words in the manner discussed.

The importance of an example like (9.14) in the context of the present discussion is that it shows that in Icelandic **any syllable** can be elevated to foot status and become stressed in the manner of a separate word. And this is related to the fact noted



in section 4.2 that, unlike Old Icelandic and Faroese, there is no reason to assume a special category of reduced or restricted syllables in Modern Icelandic.

## 9.2 FAROESE SYLLABLES

In contrast to Icelandic, we have seen in section 5.5 that there is good reason to say that there are two types of syllable in Faroese: full and restricted. We will start our analysis by looking at the full syllables, applying similar analytical methods as in Icelandic, and then turn to the relation between full and restricted syllables. It will be proposed that the restricted syllables are ‘degenerate’ in that they have limited melodic options and cannot form feet in the phonological hierarchy (they are ‘un-footed’), whereas the full syllables of Faroese, like normal Icelandic syllables are potential recipients of stress.

### 9.2.1 The length rule in Faroese

We saw in Chapter 2 that the quantity shift in Faroese aimed at a similar structure to that of Icelandic, making stressed (full) syllables uniformly heavy (Stress-to-Weight) and getting rid of overlength. Thus a single intervocalic consonant forms the onset of a following syllable, making the preceding one open, whereas the first member of an intersyllabic cluster may form a coda within the rhyme belonging to the first syllable, giving paradigms like those in (9.15).

(9.15) Open	Closed
/y/ <i>mytisk</i> [my:.tɪsk] ‘mythological’	<i>mystisk</i> [mys.tɪsk] ‘mysterious’
/ø/ <i>høgur</i> [høæ:.uʊɪ] ‘high-M’	<i>høgt</i> [høk.t] ‘high-N’
/u/ <i>gulur</i> [ɡu:.lʊɪ] ‘yellow’	<i>gult</i> [ɡʊ̯.t] ‘yellow-N’
/o/ <i>tola</i> [tʰoɔ:.la] ‘to endure’	<i>toldi</i> [tʰɔ̯l.tɪ] ‘endured’

And, like in Icelandic, vowels (diphthongs or monophthongs) are lengthened under stress in open syllables, and consonants are lengthened in closed syllables (cf. section 9.2.3 below), giving half length in a similar way as in Icelandic.

Faroese also has a length rule, defining exceptions in syllabification, so that a limited set of interludes form onsets to following syllables, as shown in (9.16):

(9.16)	<i>daprir</i> [tɛa:.pɪɪɪ] ‘sad-PL’
	<i>vetrar</i> [veɛ:.traɪ] ‘winter-GEN’
	<i>fedrar</i> [feɛ:.tɪaɪ] ‘fathers’
	<i>vakrir</i> [vɛa:.kɪɪɪ] ‘beautiful-MASC.PL’
	<i>akrar</i> [ɛa:.kɪaɪ] ‘fields’
	<i>epli</i> [e:phɪ] ‘potato’
	<i>møblar</i> [møæ:.plaɪ] ‘furniture’
	<i>bekla</i> [peɛ:.kla] ‘walk crookedly’
	<i>miklir</i> [mi:.klɪɪ] ‘great’

The conditioning shown by this length rule is reminiscent of Icelandic, in that stops + r form onsets, as in *vetrar* ‘winters’ and *vakrir* ‘beautiful-PL’; but there is a difference in that, unlike in Icelandic, the clusters /pl/ and /kl/ can form internal onsets in Faroese. (In forms like *vitja* ‘to visit’, where Icelandic has clusters of /t/ followed by /j/ and a long preceding vowel: [vi:tja], MF has a singleton palato-alveolar stop or affricate preceded by a long vowel: [vi:tʃa], and in *vekja* ‘to wake up’, where MI has a palatal: [veɛ:ca], MF has a palato-alveolar affricate preceded by a long vowel: [ve:tʃa].)

Also (according to Thráinsson et al. 2004: 30) there is a long vowel in borrowings containing the cluster /kv/, which suggests that the Faroese length rule, like the Icelandic one, makes this an internal onset. But because the relevant syllables do not take word stress, the lengthening of the vowel may not be as marked as for a fully stressed syllables:

- (9.17) *ekvivalentur* [ɛ(:).kvɪva'lɛŋtʊɪ] ‘equivalent’  
*rekvisittur* [ɛ(:).kvɪ'siʰtʊɪ] ‘requisite’

There are no forms to be found in Faroese which would test the behaviour of fortis stops or /s/ followed by a /j/. The sequence /pj/ apparently does not occur as an interlude in Faroese, and in the case of historical dorsals and dentals, palatalization has resulted in monosegmental interludes corresponding to historical clusters like *kj*, *tj*, and *sj*:

- (9.18) *vekja* [ve:tʃa] ‘wake up’, *vitja* [vi:tʃa] ‘visit’, *tysja* [tɪ:tʃa] ‘to rush’

So the Faroese length rule follows similar principles to the Icelandic one, but with some difference in detail.

Thus we saw that there is a structural difference in that interludes consisting of (fortis) stops + /l/ in long environments, as in *miklir* [mi:klɪɪ] ‘great-MASC.PL’ and *epli* [e:plɪ] ‘potato’ (cp. Icelandic *miklir* [mɪhklɪr] ‘great-MASC.PL and *epli* [ɛhplɪ] with a short vowel followed by preaspiration). But there is an ‘exception’ in that the cluster /tl/ forms a short environment, as in *tvatla* [tʰvaʰt.la] ‘to twaddle’, which aligns with Icelandic *Atli* [ahtlɪ] ‘Attila, a man’s name’. According to Gouskova (2004: 216–20) this difference between Icelandic and Faroese lies in the different syllabic consequences of the ‘sonority jump’ between consonants in the interlude. Thus a (hard) stop and a lateral, which has a sufficient ‘sonority distance’ (+5 on a specially designed sonority scale) can form a complex onset to the following syllable in Faroese, but not in Icelandic. And the exceptionality of /tl/ is seen as due to a constraint against a cluster involving a homorganic stop and a lateral (which is also valid word-initially) making the syllabification \*/tva.tla/ ungrammatical.

It is interesting to compare the situation pictured in (9.16) regarding (historical) fortis stops in interludes to the behaviour of Faroese lenis stops in similar surroundings. As already mentioned, the cluster /kv/ in borrowings like *ekvivalentur* [ɛ(:).kvɪva'lɛŋtʊɪ] ‘equivalent’, *rekvisittur* [ɛ(:).kvɪ'siʰtʊɪ] ‘requisite’ seems to be syllabified as an onset.<sup>5</sup> But examples like *nógvir* [nɛk.vɪɪ] ‘plenty’ and *rógva* [ɛk.va]

<sup>5</sup> Although this is not entirely clear, the forms might have aspiration for speakers of the hard varieties.

'to row' show that a (lenis) stop followed by /v/ can form a coda. Other interludes, showing that 'lenis' stops, deriving historically from fricatives or sonorants (as sometimes indicated by the spelling) and followed by sonorants may be syllabified as coda + onset, giving short vowels, as in (9.19):

- (9.19) *veðrið* [vɛk.rɪ] 'the weather'  
*veðrar* [vɛk.ɹaɪ] 'rams'  
*eydnast* [eit.nast] 'succeed'  
*oynni* [ɔit.nɪ] 'the island-DAT'

This means that an opposition based on syllabification or vowel length is possible as shown in (9.20):

- (9.20) *ekvivalentur* [ɛ(:).kvɪva'lɛntʊɹ] 'equivalent'    *nógvir* [nɛk.vɪɹ] 'plenty'  
*rekvisittur* [ɹɛ(:).kvɪsl<sup>h</sup>tʊɹ] 'requisite'    *rógva* [ɹɛk.va] 'to row'  
*vakrir* [vɛa:(<sup>h</sup>).krɪɹ] 'beautiful-MASC.PL'    *veðrið* [vɛk.rɪ] 'the weather'

And as shown by a form like *vakrir* [vɛa:<sup>h</sup>krɪɹ] 'beautiful', aspiration can also play a role in the 'hard' varieties, that is those that have preaspiration following a long non-high vowel.

Related to this, there are (as in Icelandic, cf. section 6.2.3) examples of an opposition between coda consonants, based on preaspiration, as in (9.21):

- (9.21) *vatnið* [va<sup>h</sup>tnɪ] 'the water'    *eydnast* [eitnast] 'succeed'  
*oynni* [ɔitnɪ] 'the island-DAT'

It might seem that the Faroese order of things should be analysed in a parallel way to Icelandic, that is with a length rule with principled exceptions such as the one that stop + /l/ (except t + /l/) is syllabified as an onset in Faroese. But in fact the story is more complicated, since as we have seen the qualitative differences between long and short vowel pairs are considerable, and there are further complications due to dialect differences.

As in many other respects, the dialect of Suðuroy differs from the other varieties as regards syllabic structure. For one thing, words corresponding to those listed in (9.16), which for most Faroese varieties have long vowels, have short vowels in *Suðuroyarmál*, followed by coda consonants, marked as long in traditional accounts:

- (9.22) *epl(i)* 'potato'    [ɛp:l] (elsewhere: [e:(<sup>h</sup>)pɪ])  
*vitja* 'visit'    [vɪt:ja] (elsewhere: [vi:tʃa])  
*vetrar* 'winter-GEN'    [vɛt:ɹaɹ] (elsewhere: [ve:(<sup>h</sup>)tɹaɹ])  
*nakrar* 'some-F.PL'    [nak:ɹaɹ] (elsewhere: [nɛa:(<sup>h</sup>)kɹaɹ])  
*flesjar* 'skerries'    [flɛʃ:aɹ] (elsewhere: [fle:ʃaɹ])

Another characteristic of the older Suðuroy dialect is that it has (or had) long diphthongs in 'short' environments in forms like *eydnast* [ei:tnast] 'succeed' (elsewhere: [eitnast]) and *oynni* [ɔi:tnɪ] 'the island-DAT' (elsewhere: [ɔitnɪ]). According to Eivind Weyhe (p.c.), this is a case of conservative retention of overlength in diphthongal forms only, since monophthongal forms like *allir* [atɪɹ] 'all', *regnið*

[rɛkni] ‘the rain’ and *veðrið* [vɛkri] ‘the weather’ have short vowels in this variety, and in any case influence from other varieties has blurred the picture, so that the old quantity relations of *Suðuroyarmál* are changing.

### 9.2.2 The template for full syllables in Faroese

There are thus several complications and differences from Icelandic, regarding syllable structure and the distribution of ‘long’ and ‘short’ vowels in Faroese. But in spite of this the basic types of full syllable seem to be the same, so that it is possible to describe the Faroese structure with the same sort of notation as used for Icelandic, that is in terms of syllables with an onset, a rhyme with closed and open syllables, and an eventual appendix with extrasyllabic consonants. And single word- final consonants in monosyllables are extrametrical, making the preceding vowel long as in (9.23).

- (9.23) *mús* [mʊu:.s] ‘mouse’  
*dal* [tɛa:.l] ‘valley-ACC’

Applying the syllabic template presented in (9.4) and (9.6) for Icelandic gives us something like (9.24) for Faroese:

- (9.24)
- |                |              |                               |
|----------------|--------------|-------------------------------|
| σ              | σ            |                               |
| O    R         | O    R       |                               |
| \              | \            |                               |
| /k    ɛa    A  | m    a    l/ | <i>gamal</i> ‘old’            |
| /k    i:    A  | n    a/      | <i>Kína</i> ‘China’           |
| /sp    aɭ      | t/           | <i>spælt</i> ‘played’         |
| /p    ɔ̯ɸ      | tʃ    ɪ/     | <i>beinki</i> ‘bench-DAT’     |
| /t    aɸ       | s    t/      | <i>danskt</i> ‘Danish-NEUT’   |
| /fɭ    yk    s | l    ɔ    t/ | <i>flykslot</i> ‘snow-flurry’ |
| /v    ɛk       | r    ɪ/      | <i>veðrið</i> ‘the weather’   |

Triconsonantal clusters are common in Faroese, for example in verbal forms like (*tú*) *manst* [maŋst]/[maŋts] ‘you remember-1SG’, *tú gekst* [tʃɛkst] ‘you walked’, where the personal ending *-st* is added to a consonantal stem. Also, compound forms like *flykslot* [flyk.s.lɔt] ‘snow-flurry’ and *misnøgður* [mistnœktʊɹ] ‘unhappy’ can have triconsonantal sequences. In these cases the middle or final consonants become extrasyllabic. In other cases, more harmonic structures are created by cluster simplification, as in *merkti* [mɛɹtɪ] ‘noticed’ from *merkja* [mɛɹtʃa] ‘to notice’, (cf. section 9.4.3 below).

A special difference between Icelandic and Faroese, which we will discuss in more detail in Chapter 11, is that preaspiration in forms like *opna* ‘to open’ gives [ɔ<sup>h</sup>p.na] with the most natural syllable break after the stop, so that a proper analysis

of aspiration is to take it as a feature of the stop rather than forming a coda by itself, as in Icelandic [ɔh.pna].

### 9.2.3 Half length and overlength in Faroese

It was noted in section 9.1.4 that the so-called half length in Icelandic is directly connected to the realization of stress, so that a consonant which follows a short vowel in forms like *hestur* [hɛs'tʏɾ] 'horse' is lengthened in proportion to the strength of the accent. Although this is not mentioned in many previous descriptions of Faroese (except Rischel 1961), the /s/ in utterances like (9.25) may be lengthened in proportion to the strength of the stress:

- (9.25) *Hann býr í HESTI* [han,pɔi.ɪ'hɛs'tɛ]<sup>6</sup>  
He lives on (the island) Hestur

Another type of complication noted in section 9.1.4 for Icelandic was overlength due to analogical levelling, placing long vowels before clusters which otherwise should have short vowels, as in *MI mans* [ma:ns] 'young lady-GEN' and *ships* [sci:ps] (beside [sci:fs]/[skips]) 'ship-GEN' (cf. forms like *mani* [ma:ni] 'young lady-DAT' and *skipi* [sci:pi] 'ship-DAT').

For Faroese, it should in principle be possible to test this phenomenon on genitival forms like *báts* and *ships* from *bátur* [pɔa:tʊ.ɪ] 'boat' and *skip* [ʃi:p] 'ship'. Adding the genitival -s should create a shortening environment, giving something like \*[pɔts] for *báts* and \*[ʃɪps] for *ships*. But, as noted in section 5.1.2, it is not easy to elicit such forms from speakers, and they are not likely to appear in natural speech either. But to the extent that such genitival forms occur, they do seem to have long vowels, creating overlength, as in *dóms* [tɔu:ms] 'judgement-GEN', *báts* [pɔa:ts] 'boat-GEN'. The same goes for compounds like *bátmaður* [pɔa:tmeaʊ.ɪ] 'boatman'. Forms like *bátfiskur* 'the share of fish belonging to the boat' is listed in the *Føroysk orðabók* as having the form [pɔtʃiskʊ.ɪ], but my informants tend to be more willing to accept the form [pɔa:tfiskʊ.ɪ] with a long vowel. Other overlong forms can be found in a number of compounds where the length and quality of the first part is re-tained, as for example in *spaksintur* [spea:ksɪntʊ.ɪ] 'easy-going', *spaklyndur* [spea:klɪntʊ.ɪ] 'easy-going', *stórskorin* [stɔu:ɪskɔ.ɪn] 'rough-hewn', *stórsegl* [stɔu:ɪsegl] 'big sail' (also [stœɹsekl]). But it is interesting to note that in certain morphological relations this type of overlength is not allowed. Thus, at least in the dialects north of Skopunarfjørður (*norðanfjørðs*), forms like \*[k<sup>h</sup>vi:kt], \*[stɔu:rt], \*[li:nt], \*[spea:kt] are not allowed for *kvikt*, *stórt*, *lint*, and *spakt* as neuter forms for adjectives like *kvikur* 'unreliable, fast moving', *ljótur* 'ugly', *linur* 'soft', and *spakur* 'quiet, peaceful'; the normal pronunciation of these forms is [k<sup>h</sup>vɪkt], [stœ.ɪ], [lɪnt], and [spakt].

<sup>6</sup> As shown in section 10.1.3 there is a systematic difference in the duration of the /s/ in a word like *hestur* 'horse' according to whether it receives the nuclear accent or not. In utterances of the type *Hann býr á HESTI* 'He lives on (the island) Hestur', the average duration (in 18 token utterances) is about 148 ms, whereas in utterances corresponding to *Hestur* is a *SMALL* community (19 utterances) the average duration is about 114 ms (cf. Schäfer and Árnason 2009).

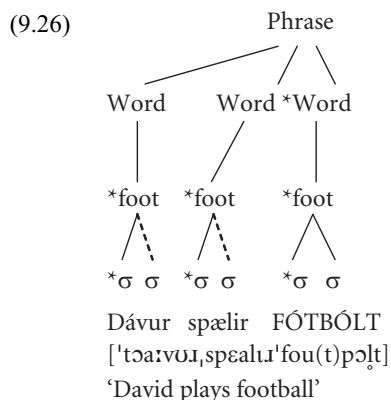
Such forms as comply with the long-short pattern are mostly lexicalized compounds, cf. *stórbóndi* [stœ:ɽpœnti] ‘a rich farmer’, *stórliga* [stœ:ɽlija] ‘greatly’, *bókstafur* [pœk-stæa:ʋʋɽ] ‘character, letter’. Also, neuter forms like *stórt* [stœ:ɽt] ‘big-N’ from *stórir* [stœ:ɽiɽ] ‘big’ typically follow the traditional pattern. This suggests that in fact the patterns illustrated in (5.1) are fossilized and should be classified as morphophonemic rather than purely phonological regularities. In fact, most of the examples used are paradigms of adjectives between masculine and neuter forms. Given the phonological distance between forms like *deyður* [teijʋɽ] ‘dead-M’ and *deytt* [tɛ<sup>h</sup>t:] ‘dead-N’, there may seem to be little reason to analyse the relation as a purely phonological one.

Another aspect suggesting that the length rule is not really alive as a phonological or phonetic principle is shown by the fact that definite forms like *húsinum* [hœu:.s.nʊn] ‘the house’ and *bátinum* [pœa:.t.nʊn] ‘the boat’ never have short vowels, even in disyllabic forms. True, the spelling and pronunciation suggest that these forms may be trisyllabic, but as we shall see below, they are mostly disyllabic with an overlong first syllable. (This is different from parallel forms for Icelandic, where *bátur* ‘boat’ has two options for a dative definite form: *bátinum* or *bátnum* ‘the boat-DAT’. The disyllabic form invariably has a short vowel and preaspiration: [pauhtnym].)

Still another source of such overlong forms are loanwords like *próstur* [prœu:stʋɽ] ‘provost, dean’ with a long vowel, (cf. *fastur* [fastʋr] ‘firm’ with a short vowel), *faktiskt* [fa:ktist] ‘actually’ (cf. *nokta* [nœkta] ‘to refuse’ with a short vowel), and *japanskur* [ja’pa:nskʋɽ] ‘Japanese’ (cf. *danskur* [taij’skʋɽ] ‘Danish’). Here we have long vowels before clusters which in the traditional vocabulary form a sequence of coda plus onset. There are thus numerous exceptions which challenge the traditional system and its phonological analysis. And as in Icelandic, the tendency is to increase the number of open syllables at the cost of closed ones.

#### 9.2.4 Full syllables and restricted syllables in the phonological hierarchy

Inserting a Faroese text into a template for a phonological phrase like the one presented for Icelandic in (9.1) gives a structure of the type shown in (9.26):



Here we have three disyllabic word forms: *Dávur* ‘David’, *spælir* ‘plays’, and *fótbolt* ‘football’. But unlike in Icelandic, all syllables aren’t equal, since the restricted syllables are unfooted, as indicated by the dashed lines in the first two feet leading to the second syllables of *Dávur* ‘David’ and *spælir* ‘plays’. Other syllables, for example the initial syllables and the second syllable of *fótbolt* ‘football’, are full syllables.

There are several options regarding the lexical structure in Modern Faroese polysyllables, between a sequence of full syllables (with or without word stress) and a sequence of full and weak ones. This is illustrated in part in (9.27):

(9.27) Full–Restricted

*voksin* [vɔksən] ‘grown up’

Full–Full

*ítrótt* [ʊi:trɔ<sup>h</sup>t] ‘sport’

*bláloft* [plɔa:lɔft] ‘(blue) sky’

*mannfólk* [manfœlk] ‘men’

Full–Full–Restricted

*kærleiki* [k<sup>h</sup>ɛa:laiɪfɪ] ‘love’

Full–Restricted–Full

*krákubein* [k<sup>h</sup>rɔa:kupain] ‘crows leg’

Full–Restricted–Full–Restricted

*Fuglafirði* [fuklafɪɹə] ‘the village *Fuglafjørður*-DAT’

*handilsmaður* [hantɪsmɛa:vʊɹ] ‘businessman’

These examples illustrate the different restrictions regarding melodic composition in the full and restricted syllables, independent of stress. Thus in the unstressed full syllable in *ítrótt* we have the vowel /ɔ/, which is not one of the vowel qualities defined for the restricted syllables, and the final consonant is a preaspirated stop. And in *mannfólk* we have /œ/ followed by a cluster of a sonorant plus obstruent. The restricted syllables have, as we have seen (section 5.5.1), a much more limited inventory in the lexical representation. The maximum vocalic distinction is /ɪ, ʊ, a/, and the only consonants are the sonorants /n, l, r/; as illustrated for example by forms like *Dávur* [tɔa:vʊɹ] ‘David’, compared to Icelandic *Davíð* [ta:vi:θ], or ‘David’ and *høvur* [hœ:vʊɹ] ‘head’, compared to Icelandic *höfuð* [hœ:vʏθ].

In terms of hierarchic structure we will, as noted, assume that the restricted syllables are unparsed relative to higher layers in the phonological hierarchy, which is to say that they cannot form stress feet, and they are thus unable to take any sort of word stress. The lexical representation of forms like *bátur* ‘boat’ and *voksen* ‘grown-up’ can be pictured as in (9.28):

- (9.28) a. word                      word                      word
- |                                      |                                      |
- foot                                  foot                                  foot
- |                                      |                                      |                                      |                                      |
- $\sigma$                        $\sigma$                        $\sigma$                        $\sigma$                        $\sigma$
- /pɔa    tur/                      /vok    sən/                      /pɔɲ.tʃi.nʊn/
- bátur* ‘boat’                      *voksin* ‘grown-up’                      *bonkinum* ‘the bench-DAT’
- 
- b. word
- |                      \
- foot                      foot
- |                                      |
- $\sigma$                        $\sigma$
- /ʊi:    trɔʰt/
- ítrótt* ‘sport’

As we saw in section 5.5, unstressed (or not completely stressed) syllables in Faroese have been classified into three types: completely unstressed syllables (*levissimus*), weakly stressed restricted syllables (*levis*), and relatively weak stressed syllables. Thus trisyllabic forms like *bonkinun* [pɔɲtʃi.nʊn] ‘the bench-DAT’ and *bókina* ‘the book-ACC.DEF’ are typically uttered with an alternating rhythm, so that the third syllable (*levis*) is stronger than the second one (*levissimus*), which is then more likely to be reduced.

And the full syllables may also vary in strength according to rhythmic conditions. They may take main stress and secondary stress in compounds like *handilsmaður* [ˈhantɪls.mæa:ʊɹ] ‘merchant’. Here the main stress is on the first full syllable and a secondary stress on the third one. In the case of two full syllables being juxtaposed, for example in compounds such as *fótbolt* [fou:pɔlt] ‘football’, *bláloft* [plɔa:lɔft] ‘(blue) sky’ (*hin gamli á bláloftinum* ‘the good Lord’), or *ítrótt* [ʊitrɔʰt] ‘sport’, the strength of the second syllables is commonly reduced for rhythmic reasons, although they still retain their status as full syllables in allowing more complex segmental structure than the restricted syllables.

But although the distinction between full and restricted syllables seems clear enough, it is possible for individual items to change categories or show vacillation between the two types. This may happen in commonly used placenames like the names of the islands belonging to the archipelago. Thus the names *Svínoy* and *Fugloy*, beside careful forms like [svʊi:nɔi] and [fʊklɔi], may have output forms like [svʊi:nə] and [fʊklə] (cf. section 14.4.2; for an overview of placenames in the northern isles, see Matras 1932).

In some cases it is doubtful whether words which in the written form have three syllables really should be analysed as trisyllabic on the lexical level. It is common for such forms to have only two syllables in actual pronunciation, as is shown in (9.29):



- (9.29) *húsinum* [hʊu:.snʊn] ‘the house-DAT’  
*bátinum* [pʊɑ:.tnʊn] ‘the boat-DAT’  
*bygdina* [pɪk.tna] ‘the community-ACC’  
*landinum* [lan.tnʊn] ‘the land-DAT’  
*báturinn* [pʊɑ:<sup>h</sup>.tɪn] ‘the boat-NOM’

But these forms can also be realized as trisyllabic, as for example in a relatively clear utterance of the form *beinkinun* [ˈpɔɪŋfɪ,nʊn] ‘the bench’ by speaker T-1.

It might be worth considering, whether to analyse some of these forms as underlyingly disyllabic but with optional epenthesis. But given the fact that in most Faroese varieties, the quality of the vowel is not predictable, the other option seems to be preferable. In any case, there are a number of polysyllabic forms where medial syllables, weak and conforming to the phonotactics of the restricted syllables, do not seem to be reduced. Thus the place name *Fuglafjørður* in the dative is normally pronounced as quadrisyllabic: *Fuglafirði* [ˈfʊkla,fɪɹə] (DAT), although in other cases, such a medial syllable seems most commonly to be reduced to a syllabic consonant, as in *handilsmaður* [hantʃsmɛavʊɹ] ‘businessman’. Thus it seems that in most cases, these restricted syllables belong in the lexical form, and are only optionally reduced in actual utterances. But the other possibility—of seeing the vowels as epenthetic (before extrasyllabic sonorants)—should not be excluded in varieties where the vocalic quality for reduced syllables has been fully neutralized to [ə] or something similar.

One thing to note about the forms in (9.29) is that, as shown by the transcription, the first syllables in *hús(i)num* [hʊu:.snʊn] ‘the house-DAT’ and *bát(i)num* [pʊɑ:.tnʊn] ‘the boat-DAT’ are open with a long vocalism (i.e. with overlength), but there is a closed syllable and a short vocalism in *land(i)num* [lan.tnʊn] ‘the land’ and *bygd(i)na* [pɪk.tna] ‘the community’. This in a way fits better with a lexical analysis of the forms as trisyllabic, because intersyllabic sequences like /sn/ and /tn/ should be syllabified as /s.n/ and /t.n/ respectively, closing the preceding syllable, and if a dative like *hús(i)num*, etc. had a disyllabic input one would expect a short vowel, something like \*[hys.nʊn]. But another possible interpretation is to take the overlength as being due to analogical levelling or borrowing of the long vowel of the nominative *hús* [hʊu:s] into the dative form *húsnum* [hʊu:.snʊn] etc., in the same way as the genitive form *báts* [pʊɑ:ts] ‘boat-GEN’ has a long vowel like the nominative *bátur* [pʊɑ:tʊɹ] ‘boat’.

### 9.3 THE CONSONANTAL PHONOTACTICS OF ICELANDIC

We will now have a look at consonantal phonotactics in relation to syllabic structure, first in Icelandic, and then in Faroese. The overall generalization is that onsets show rising sonority and follow the principle of Sonority Sequencing. The options available vary from one syllabic position to the other. Thus, on the whole, codas are less permissive than onsets, and, in some ways at least, internal onsets tend to be more restrictive than initial onsets. But there are several complications and issues which will have to remain unresolved. (For recent work see e.g. Gussmann 2003.)

## 9.3.1 Initial onsets in Icelandic

## Stops in monosegmental onsets

As described in section 6.2.3, there is an opposition between a series of voiceless aspirated (fortis) and unaspirated (lenis) stops in initial onsets, as demonstrated in (9.30):

- (9.30) /p<sup>h</sup>/ *pera* [p<sup>h</sup>ε:ra] ‘a pear, light bulb’      /p/ *bera* [peε:ra] ‘to carry’  
           /t<sup>h</sup>/ *tala* [t<sup>h</sup>a:la] ‘to talk’                              /t/ *dala* [ta:la] ‘valley’  
           /c<sup>h</sup>/ *ker* [c<sup>h</sup>ε:ɾ] ‘tub’                                    /c/ *ger* [ceε:ɾ] ‘yeast’  
           /k/ *kal* [k<sup>h</sup>a:l] ‘frostbite’                              /k/ *gal* [ka:l] ‘crowing’

According to the analysis in section 6.5 the opposition is based on the presence vs absence of an H element (or feature of [spread glottis]), which is absent in the lenis (unaspirated) stops, but realized as aspiration in the fortis ones. The fortis stops are thus marked or more loaded with information. The examples in (9.30) represent the inventory of truly phonemic stops in MI, but in addition to this, as noted in section 6.2.1, a glottal stop is optional before stressed syllables, particularly those that start with a vowel, as in (9.31):

- (9.31) *Hann er ASNI*  
           [hanɛrʔasʔnɪ]

It might be suggested that the glottal stop is a segment or belongs in the phonotactics as a sort of neutral stop onset, but as we shall see in section 14.5 this phenomenon is more appropriately analysed as a phrasal or postlexical phenomenon, which means that the lexical representation of forms like *asni* ‘idiot’ should have an empty onset.

## Initial fricatives

The following (non-sibilant) fricatives occur as single word initial onsets in Modern Icelandic:

- (9.32) /f/ *fara* [fa:ra] ‘to go’                                    /v/ *vara* [va:ra] ‘to warn’  
           /θ/ *para* [θa:ra] ‘sea weed-ACC’  
           /ç/ *hjörrð* [çœrð] ‘herd’  
           /h/ *hata* [ha:ta] ‘to hate’

As can be seen, voicing is here distinctive only in the labial fricatives, since other places of articulation allow only voiceless ones in initial position (except in clitic forms, cf. sections 9.3.3 and 12.9.2).

Furthermore, we note that (except in a rather rare dialect variant, cf. section 6.3, p. 107 there is no velar fricative in word initial position, whereas the historical cluster /hj/ has supplied a voiceless palatal fricative [ç] in *hjarta*. The laryngeal /h/ is here classified as a fricative although the frication is often not very prominent; the opening of the glottis basically forms a voiceless onset with the resonance characteristics of the following vowel.

## Initial sonorants

The following voiced sonorants can form monosegmental word initial onsets in MI:

- (9.33) /m/ *moka* [moɔ:ka] ‘to shovel’  
 /n/ *nota* [noɔ:ta] ‘to use’  
 /l/ *laða* [la:ða] ‘to entice’  
 /r/ *rota* [roɔ:ta] ‘to knock out’

But in addition to this the dental and alveolar voiceless sonorants [ɲ], [ɭ], and [ɽ] occur as in (9.34):

- (9.34) /ɲ/ *hnota* [ɲoɔ:ta] ‘nut’  
 /ɽ/ *hrota* [ɽoɔ:ta] ‘snoring, a spell’  
 /ɭ/ *hlaða* [ɭa:ða] ‘to load’

As the spelling shows, these voiceless sonorants derive historically from clusters of /h/ plus sonorant (compare the [ç] in *hjörð*, cf. (9.32) above), and, as mentioned in section 6.4, p. 109 there have been proposals to analyse these sounds as clusters of /h/ plus sonorant. But as pointed out above, the arguments are not conclusive, and in Árnason (2005a: 175–9) these sounds are seen as monosegmental; there seems to be little linguistic reason to assume bisegmental inputs for these forms.

A possibility in the analysis of the voiceless sonorants, spelled *hn*, *hl*, *hr*, is to join them up with the voiceless obstruents in a series defined as having the H-element without noise or frication. In this way we would have a more complete correlation for initial consonants based on the presence or absence of H, cutting through a large part of the system as defined by other features.

(9.35)	H	no H
<i>Labial</i>		
Stop	/p <sup>h</sup> ɛ:ra/ <i>pera</i> ‘a pear, light bulb’	/pɛ:ra/ <i>bera</i> ‘to carry’
Fricative	/fa:ra/ <i>fara</i> ‘to go’	/va:ra/ <i>vara</i> ‘to warn’
<i>Alveolar</i>		
Stop	/t <sup>h</sup> a:la/ <i>tala</i> ‘to talk’	/ta:la/ <i>dala</i> ‘valley’
Fricative	/θa:ra/ <i>para</i> ‘sea weed-ACC’	—
Nasal	/ɲoɔ:ta/ <i>hnota</i> ‘nut’	/noɔ:ta/ <i>nota</i> ‘to use’
Trill	/ɽoɔ:ta/ <i>hrota</i> ‘snoring’	/roɔ:ta/ <i>rota</i> ‘knock out’
Lateral	/ɭa:ða/ <i>hlaða</i> ‘to load’	/la:ða/ <i>laða</i> ‘to entice’
<i>Palatal</i>		
Stop	/ç <sup>h</sup> ɛ:r/ <i>ker</i> ‘tub’	/çɛ:r/ <i>ger</i> ‘yeast’
Fricative	/çærð/ <i>hjörð</i> ‘herd’	/jærð/ <i>jörð</i> ‘earth’
<i>Velar</i>		
Stop	/k <sup>h</sup> a:l/ <i>kal</i> ‘frostbite’	/ka:l/ <i>gal</i> ‘crowing’
Fricative	—	—

But there are still some significant absentees from this paradigm: except for clitic forms of pronouns and some adverbs (section 9.3.3), there is no word initial [ð], and the absence of velar frication (except in a version of the so-called hv-dialect, (cf. section 6.3) at the beginning of a syllable still stands out.

### Complex onsets

Starting with sonorants, the following clusters with /m/, /n/, /l/, and /r/ form word onsets in Modern Icelandic:

(9.36) Voiced	Voiceless
/mj/ <i>mjólk</i> [mjoulk] ‘milk’	—
/nj/ <i>njóta</i> [njou:ta] ‘to enjoy’	/n̥j/ <i>hnjóta</i> [n̥jou:ta] ‘to stumble’
/lj/ <i>ljós</i> [ljou:s] ‘light’	/l̥j/ <i>hljótt</i> [l̥jouht] ‘silent-NEUT’
/rj/ <i>rjómi</i> [rjou:mi] ‘cream’	/r̥j/ <i>hrjóta</i> [r̥jou:ta] ‘to snore’

As can be seen, the only sound that the sonorants can combine with is /j/, which, given the expectancy that sonority rises in onsets, can be taken as one more argument for analysing it as a sonorant (cf. the discussion in section 6.3, p 108).

As regards fricatives, voiceless /f/ and /θ/ can combine with sonorants, whereas the voiced /v/ can only combine with /j/. /f/ is more versatile, as shown in (9.37):

(9.37) Biconsonantal
/fj/ <i>fjöl</i> [fjœ:lj] ‘plank’
/fl/ <i>flaska</i> [flaska] ‘bottle’
/fn/ <i>fnykur</i> [fnɪ:kʏr] ‘a stench’
Triconsonantal
/frj/ <i>frjósa</i> [frjou:sa] ‘to freeze’
/flj/ <i>fljóta</i> [fljou:ta] ‘to float’
/fnj/ <i>fnjóskur</i> [fnjouskʏr] ‘dead wood’

In the triconsonantal onsets /f/ precedes the coronal sonorant + /j/ onsets listed in (9.36) above.

Clusters beginning with /θ/ are listed in (9.38):

(9.38) Biconsonantal
/θj/ <i>þjóta</i> [θjou:ta] ‘rush’
/θr/ <i>þroski</i> [θrɔsci] ‘maturity’
/θv/ <i>þvo</i> [θvoɔ:] ‘to wash’
Triconsonantal
/θrj/ <i>þrjóskur</i> [θrjouskʏr] ‘stubborn’

We saw that the only possible combination of voiced [v] is with /j/ as in *vél* [vɛ:lj] ‘machine’. The fact that the reverse order of /j/ and /v/ is not permitted might be taken to suggest that /j/ is more of an approximant or glide than /v/, although other factors may be involved.

The possible stop initial clusters are listed in (9.39), classified according to the manner and place of the first segment:

(9.39) Fortis	Lenis
Labial	
/p <sup>h</sup> j/: <i>pjatl</i> [p <sup>h</sup> jahtla] 'piece of cloth'	/p <sup>h</sup> j/: <i>bjór</i> 'beer'
/p <sup>h</sup> t/: <i>prestur</i> [p <sup>h</sup> ɾɛstʏɾ] 'priest'	/p <sup>h</sup> r/: <i>bresta</i> [pɾɛsta] 'to crack-INTRANS'
/p <sup>h</sup> rj/: <i>prjóna</i> [p <sup>h</sup> rjou:na] 'to knit'	/p <sup>h</sup> rj/: <i>brjóta</i> [pɾjou:ta] 'to break'
/p <sup>h</sup> l/: <i>plata</i> [p <sup>h</sup> la:ta] 'plate'	/p <sup>h</sup> l/: <i>blanda</i> [planta] 'to mix'
	/plj/: <i>blés</i> [pljɛ:s] 'blew'
Alveolar	
/t <sup>h</sup> j/: <i>tjara</i> [t <sup>h</sup> ja:ra]	/tj/: <i>djús</i> [tju:s] 'juice', <i>drepa</i> [trɛ:pa] 'to kill'
/t <sup>h</sup> r/: <i>trúa</i> [t <sup>h</sup> ruw.wa] 'believe'	/drj/: <i>drjúpa</i> [trju:pa] 'to drip'
/t <sup>h</sup> rj/: <i>trjóna</i> [t <sup>h</sup> rjou:na] 'beak'	/dv/: <i>dvergur</i> [tvɛrkʏɾ] 'dwarf'
/t <sup>h</sup> v/: <i>tveir</i> [t <sup>h</sup> vei:ɾ] 'two'	
Velar	
/k <sup>h</sup> v/: <i>kveðá</i> [k <sup>h</sup> veɛ:ða] 'to speak'	<i>Gvendur</i> [kvɛntʏɾ] 'a man's name'
/k <sup>h</sup> r/: <i>kráka</i> [k <sup>h</sup> rau:ka] 'crow'	<i>grafa</i> [kra:va] 'to dig'
/k <sup>h</sup> n/: <i>knapi</i> [k <sup>h</sup> na:pi] 'jockey'	<i>gnýr</i> [tni:ɾ] 'noise'
/k <sup>h</sup> l/: <i>kló</i> [k <sup>h</sup> lou:] 'claw'	<i>glópur</i> [klou:pʏɾ] 'fool'
/k <sup>h</sup> rj/: <i>krjúpa</i> [k <sup>h</sup> rju:pa] 'kneel'	<i>grjót</i> [krjou:t] 'rocks'
/k <sup>h</sup> nj/: <i>kné</i> [k <sup>h</sup> njeɛ:] 'knee'	
/k <sup>h</sup> lj/: <i>kljást</i> [k <sup>h</sup> ljaust] 'to fight'	

Here again, rising sonority is guaranteed by assuming high sonority for /j/ and /v/, at least equal to the 'real sonorants', /r/, /l/, and /n/.

#### s-clusters

As in other languages, /s/ shows the greatest versatility when it comes to combining with other consonants to form complex onsets. Thus /s/ can precede stops to form /sp, st, sk/-clusters, as in *sparka* 'to kick', *stór* 'big', and *skor* 'score', which in turn can combine with sonorants and voiced fricatives. Apart from these stop-clusters, the only initial clusters involve the combination of /s/ with /j/ or /v/:

- (9.40) /s/+fricative/glide  
 /sj/: *sjá* [sjau:]/[sjaʊ:] 'to see'  
 /sv/: *svartur* [svartʏɾ]/[sfartʏɾ] 'black'

There are no native forms containing initial /sr/.

Although many forms are spelled with initial *sm*, *sn*, and *sl*, the normal pronunciation contains an intrusive stop, as shown in (9.41).

- (9.41) /stl/: *sleikja* [stlei:ca] ‘to lick’,  
 /stlj/: *sljór* [stljou:r̥] ‘unmindful, slow’  
 /stnj/: *snjór* [stnjou:r̥] ‘snow’  
 /spm/: *smali* [spma:lɪ] ‘shepherd’  
 /spmj/: *smjör* [spmjœ:r̥] ‘butter’

The alveolar [t] is quite regularly present, even to the extent that words written with <sn> like *Snorri* [stnɔ:rɪ] ‘a man’s name’ can alliterate in poetry with words like *stekkur* [stɛhkʏr̥] ‘sheep fold’ (see Indriðason 1990; Aðalsteinsson 2010). And although the intrusive [p] in *smali*, etc. is perhaps less regular and the metrical evidence is not as clear, acoustic measurements suggest that a drop in energy occurs regularly in the transition from the /s/ and the /m/.

Other onsets of /s/ + plosive are listed in (9.42):

- (9.42) /sp/: *sparka* [sparka] ‘to kick’  
 /spj/: *spjátrungur* [spjau:trʊŋkʏr̥] ‘dandy’  
 /spr/: *springa* [sprɪŋka] ‘to blow up’  
 /spl/: *splæsa* [splai:sa] ‘to connect, to pay’  
 /st/: *stór* [stou:r̥] ‘big’  
 /stj/: *stjórna* [stjourtna] ‘conduct, direct’  
 /str/: *strútur* [stru:tyr̥] ‘ostrich’  
 /strj/: *strjúka* [strju:ka] ‘to stroke’  
 /sk/: *skora* [skoɔ:ra] ‘to score’  
 /skr/: *skrapa* [skra:pa] ‘scrape’  
 /skrj/: *skrjóður* [skrjou:ðʏr̥] ‘old car, heap’  
 /skv/: *skvapi* [skva:pi] ‘fat, obesity’  
 /skj/: *skjóta* [scou:ta] ‘to shoot’

### 9.3.2 Consonants in the Icelandic coda

According to the length rule discussed in section 9.1.3, consonantal interludes are sometimes syllabified as onsets to following syllables, but in other cases, a consonant (maximally one) supplies the coda of the preceding rhyme. Thus the /tj/ of *setja* [sɛ:.tja] ‘to set’ forms an internal onset, whereas in *hestinn* [hɛs’.tɪn] and *hestsins* [hɛs’.t.ɹ̥sɪns], the /s/ following the vowel forms part of the rhyme as a coda.

The following consonants can occur in codas following short vowels:

- (9.43) Voiced sounds: /v, ð, ɣ, l, m, n, ɲ, ŋ, r/  
*hafði* [hav.ði] ‘had’, *stöðva* [stœð.va] ‘to stop’, *sagði* [saɣ.ði] ‘said’, *taldi* [tal.tɪ] ‘considered’, *kemba* [cɛm.pa] ‘to comb’, *lenda* [lɛn.ta] ‘to land’, *lengi* [lɛɪŋɪ] ‘long-ADV’, *langur* [laʊŋ.kʏr̥] ‘long-ADJ’, *verða* [vɛr.ða] ‘to become’

Voiceless sounds: /h, f, θ, x, s, p, t, k, ɭ, m̥, n̥, j̥, ŋ̥, r̥/

*hattur* [hahtʏr̥] ‘hat’, *hefta* [hɛfta] ‘to fetter’, *hleypti* [lɛiftɪ] ‘released’, *maðkur* [maθkʏr̥] ‘worm’, *lagt* [laxt] lay-PAST.PART, *reykti* [reixtɪ]

'smoked', *vaxa* [vaxsa] / [vaksa] 'to grow',<sup>7</sup> *viska* [vɪska] 'wisdom', *nefna* [nepna] 'to name', *einn* [eɪtn] 'one', *vagn* [vakn] 'wagon', *velta* [veɭta] 'to roll', *hempa* [hɛmpa] 'cape', *henta* [hɛnta] 'to suit', *skenkja* [sceɪŋka] 'to give', *banka* [paufka] 'to knock', *verka* [veɾka] 'to process'

At a first glance it might look as if in some respects there is a greater selection of consonants in this position than, for example, in initial position. Thus compared to the two places of articulation for initial nasals (i.e. /m/ and /n/), we have listed four nasals in the coda, and in forms like *lagt* [laxt] 'laid' we have a voiceless fricative, which is not allowed in initial position. However, this abundance of nuclear consonants is more apparent than real. For one thing, there are no polysegmental codas, and in fact many of the options in the coda are governed by distinctions in the following onsets.

The multiple places of articulation in nasals are thus (at least historically) due to agreement with following stops, as in *lamb* [lamp] 'lamb', *land* [lant], 'land', *lengi* [leɪŋci] 'long-ADV', and *langur* [laʊŋkʏɾ] 'long-ADJ'. To the extent that the resonance characteristics of nasals are predictable from those of the following onsets, this means that they are in fact neutralized in the coda. However, the place characteristics are not fully predictable, since derivational forms do exist where there is an opposition, e.g. *lengd* [leɪŋt] 'length' (cf. *langur* [laʊŋkʏɾ]), where [ŋ] is followed by /t/, and [m] appears before dental in *kímdi* [cʰimti] 'smiled' (from *kíma*). From the synchronic point of view these exceptions might be analysed as paradigm effects, so that the velar character of the nasal in *lengd* 'length' is due to some kind of faithfulness to the resonance characteristics of a velar stop in the input but deleted in the output (cf. *langur* 'long'), and similarly in the case of *kímdi* 'smiled', the place agreement tendency is overridden by faithfulness to the /m/ in *kíma* 'to smile'.

Another cause of diversity in coda consonants is devoicing before historically fortis stops and /s/. Thus in forms like *vors* [vɔɾs] 'spring-GEN' and *sýnt* [sɪnt] 'shown' *minnka* [miɳka] 'decrease' the voicelessness of the coda consonants can be seen as due to a spreading of H from a following fortis stop, as suggested by the spelling. However, since no internal aspiration is allowed after voiceless sounds in Icelandic, the aspiration having been 'displaced' or 'moved' into the sonorant (making something like \*[miɳkʰa] ungrammatical, cf. section 11.2), there are minimal pairs based solely on the voicing or voicelessness of the coda consonant: *sýnt* [sɪnt] 'shown-NEUT' vs *sýnd* [sɪnt] 'shown-FEM', *valt* [vaɭt] 'rolled' vs *vald* [valt] 'power', *lampi* [lampi] 'lamp' vs *lambi* [lampi] 'lamb-DAT'. From this perspective, it might seem that the distinction in voicing is indeed phonemic, although different analyses have been proposed, as we shall see in Chapter 11.

There are, therefore, limits to how much we can reduce the number of oppositions in the coda by assuming movement of information from following onsets, but in any

<sup>7</sup> The traditional Icelandic pronunciation has a velar fricative before /s/ in forms like *vaxa* [vaxsa] 'to grow' and *baksa* [paxsa] 'to struggle'. As noted in section 9.4.3 this is unlike Faroese, which normally has stops before /s/ in *vaksa* [vaksa] 'to grow', and also before /t/ as in *loypit* [lɔɪpti] 'ran'. And a relatively new variant pronunciation in Icelandic has [ks] instead of the traditional /xs/, i.e. [vaksa], [baksa] (cf. Árnason 2005a: 416–17).

case, it is clear that the inventory of segments is more limited than for onsets, both initial, as we have seen, and internal, as we shall see below. The most effective principles in limiting the choices available for Icelandic codas is that there is maximally one segment, and no fortis plosives are allowed in the coda.

### 9.3.3 Internal onsets in Icelandic

#### Internal plosives

By the nature of things, excepting clusters of /p, t, k, s/ + /v, j, r/, internal onsets following open syllables are monosegmental. These can be stops as in (9.44):

- (9.44) *tapa* [t<sup>h</sup>a:pa]/[t<sup>h</sup>a:p<sup>h</sup>a] ‘to lose’  
*fata* [fa:ta]/[fa:t<sup>h</sup>a] ‘bucket’  
*taka* [t<sup>h</sup>a:ka]/[t<sup>h</sup>a:k<sup>h</sup>a] ‘to take’  
*vekja* [veɛ:ca]/[veɛ:c<sup>h</sup>a] ‘to awaken’

As we saw in section 6.2.3, there is an unresolved issue in word phonotactics, whether the opposition between fortis (aspirated) and lenis (unaspirated) consonants is neutralized or not in internal position. In the indigenous vocabulary, that is in words like *tapa* [t<sup>h</sup>a:pa] ‘lose’, *pata* [p<sup>h</sup>a:ta] ‘gesticulate’, *sækja* [sai:ca] ‘fetch’, *taka* [t<sup>h</sup>a:ka] ‘take’, unaspirated stops appear after the open syllables in the majority dialect (the ‘soft speech’). But in the variety known as ‘hard speech’, spoken mainly in the north, these forms have aspirated stops in the intervocalic position: [t<sup>h</sup>a:p<sup>h</sup>a], [p<sup>h</sup>a:t<sup>h</sup>a], [sai:c<sup>h</sup>a], [t<sup>h</sup>a:k<sup>h</sup>a]. But we saw also that forms like *hótel* [hou:t<sup>h</sup>ɛl] ‘hotel’ and *Ítalía* [i:t<sup>h</sup>alija] ‘Italy’ supply new forms with aspiration in the soft dialect, and loans like *radar* ‘radar’, *legó(-kubbar)* ‘lego-cubes’ supply unaspirated internal onsets in the hard variety. And furthermore, compounds like *óríð* [ɔu:t<sup>h</sup>iθ] ‘bad weather’ (with aspiration) and *ódámur* [ɔu:tau:mʏr] ‘punk’ occur freely in both varieties. It is thus likely that the fortis–lenis opposition is valid in internal as well as initial onsets in both varieties, and that the apparent neutralization is accidental.

#### Internal fricatives and approximants

A somewhat similar question about neutralization arises regarding the relation between initial and internal fricatives, since in the traditional vocabulary, no voiceless fricatives occur in internal onsets.

- (9.45) Voiced fricatives or approximants:  
*sofa* [soɔ:va] ‘to sleep’ (\*[soɔ:fa]), *taða* [t<sup>h</sup>a:ða] ‘hay’ (\*[t<sup>h</sup>a:θa]), *saga*  
 [sa:ɣa] ‘story’ (\*[sa:xa])

As discussed in section 6.3, there may appear to be limits in distribution, so that, for example the voiceless /θ/ and /f/ only appear in word initial position as in *fara* [fa:ra] ‘to go’, *þari* [θa:rɪ] ‘seaweed’, and in voiceless internal environments like *eftir* [ɛftɪr] ‘after’, *maðkur* [maθkʏr] ‘worm’. These voiceless fricatives would then be in



complementary distribution with voiced fricatives, which occur internally in voiced environments, as in *taða* [t<sup>h</sup>a:ða] ‘hay’.

But, as shown in (9.46), voiceless /f/ and /θ/ may occur in loanwords and compounds:

(9.46) Voiceless fricatives:

*sófi* [sɔu:fi] ‘sofa’, *safarí* [sa:fari] ‘safari’, *Skýþar* [sci:θaʁ] ‘Scythians’,  
*kaþólskur* [k<sup>h</sup>a:θoulskʏʁ] ‘catholic’, *ófarir* [ɔu:fariʁ] ‘calamities’, and  
*óþarfur* [ɔu:θarvʏʁ] ‘unnecessary’

Words like *sófi* ‘sofa’ and *Skýþar* ‘Scythians’ seem to accommodate voiceless fricatives easily, and [f] and [θ] can also occur in compounds like *ófarir* [ɔu:fariʁ] ‘calamities’, and *óþarfur* [ɔu:θarvʏʁ] ‘unnecessary’. It would then seem to be natural to assume that, as in the case of stops, the absence of the voiceless fricatives in voiced environments in the native vocabulary is accidental.

The putative principle that voiced and voiceless fricatives are in complementary distribution is thus far from transparent. And in any case the pattern would be incomplete, since the voiced velar fricative corresponding to the one in *saga* [sa:ɣa] ‘story’ (cf. (9.45)) does not have a corresponding [x] in initial position in most varieties, although it occurs in voiceless internal environments like *dags* [taxs] ‘day-GEN’.

A possible argument for assuming a voicing relation in fricatives, which is neutralized in word-internal position, is based on the evidence of clitic forms. As discussed in section 12.9.2, a number of pronouns and adverbs, such as *þeir* [θei:ʀ] ‘they’, *þeim* [θei:m] ‘them’, and *þar* [θa:ʀ] ‘there’, have clitic forms starting with [ð], as in (9.47):

- (9.47) a. *Ég sá karla þar* [k<sup>h</sup>atlaðar]  
           ‘I saw (some) old men there’  
       b. *Ég treysti þeim* [t<sup>h</sup>reistɪðeim] *ekki*  
           I trust them not  
           ‘I don’t trust them’  
       c. *Ég var þar* [varðar] *í gær*  
           ‘I was there yesterday’

Here the forms *þeim* and *þar* have suffixal forms ([ðeir], [ðar]) starting with voiced [ð] instead of the voiceless [θ] of the independent forms. It might be said that the clitic constructions conform to the phonotactic pattern of words, since, for example, *karla þar* [k<sup>h</sup>atlaðar] in (9.47a) forms a perfect rhyme with a simple word like *kallaðar* ‘called-FEM.PL’ and *var þar* [varðar] rhymes with *garðar* [garðar] ‘gardens’. Such ‘clitic groups’ could then be said to adhere to phonotactic constraints valid for words. However, the existence of forms like *kaþólskur* [k<sup>h</sup>a:θoulskʏʁ] ‘catholic’ and *Skýþar* [sci:θaʁ] ‘Scythians’ with an internal /θ/ weakens the case for assuming this neutralization by voicing as a significant fact about the lexical phonotactics of Icelandic.

One more fact, mentioned in section 6.3 and further discussed in 14.4.1 below, has a bearing on the question of the relation between voiced and voiceless obstruents. This is that there is a strong tendency for the intervocalic voiced fricatives in *sofa* [soɔ:va], *taða* [tʰa:ða], *saga* [sa:ɣa], etc. to be weakened or reduced to approximants, giving something like [soɔ:va]/[soɔ:ɣa], [tʰa:ða]/[tʰa:ɰa], [sa:ɣa]/[sa:ɰa]. And they may even be deleted completely: [soɔ:a], [tʰa:a]/[tʰa:], [sa:a]/[sa:]. So all in all, it is far from obvious that the intervocalic voiced fricatives (or approximant glides) in (9.45) should be seen structurally as voiced correspondents of the initial voiceless fricatives in words like *fara* [fa:ra] ‘to go’, *þari* [θa:rɪ] ‘seaweed’ (although the historical correlation is obvious as partly reflected in the spelling).

### Sonorants

The voiced sonorants, /m/, /n/, /l/, and /r/ can form internal onsets in words like *koma* [kʰoɔ:ma] ‘to come’, *kona* [kʰoɔ:na] ‘woman’, *kola* [kʰoɔ:la] ‘lamp, coal-GEN.PL’, *fara* [fa:ra] ‘to go’. Voiceless sonorants like [ŋ], [l̥], or [r̥] are excluded intervocalically in native monomorphemic words, and this time borrowings, which might help to fill the potential accidental gaps, do not occur, most likely because no such forms are supplied by the main lending languages, Danish or English. However, morphologically complex words can easily have such sounds as onsets in the second parts of compounds, as shown by words like *búhnykkur* [puŋhkyr̥] ‘a lucky catch, a killing’, *áhlauþ* [auɮey:p] ‘attack’, and *áhrif* [aur̥ɪ:f] ‘influence’.

### Clusters in internal onsets

Due to the character of the length rule, by which clusters consisting of *p, t, k, s + v, j, r* lead to open syllabification, a limited set of complex onsets is allowed in simplex words, as illustrated in (9.47), cf. also (9.11):

- (9.48) *ne.pja* [neɛ:pja] ‘cold weather’  
*tvisvar* [tʰvɪ:svar̥] ‘twice’  
*titra* [tʰɪ:tra] ‘to vibrate’  
*sebra(hestur)* [seɛ:pra] ‘zebra’  
*setja* [seɛ:tja] ‘to set, to place’  
*vökva* [vøæ:kva] ‘to water’  
*flysja* [flɪ:sja] ‘to peel’  
 ....

The clusters in (9.48) all have rising sonority, and they form a proper subset of the clusters which occur in initial position. Thus, although such clusters as *bl, gl, sl, mj, nj, lj, rj*, and *vj* with level or rising sonority can form initial onsets (cf. *blóm* [plou:m] ‘flower’, *gleyma* [klei:ma] ‘to forget’, *slóð* [stlou:θ] ‘track’, *mjólk* [mjoulk] ‘milk’, *njóta* [njou:ta] ‘to enjoy’, *ljós* [ljou:s], *rjómi* [rjou:mi] ‘cream’, *vél* [vje:ɭ] ‘machine’), corresponding internal sequences are split between coda and onset, as in *hemja*

[hɛm.ja] ‘to control’, *venja* [vɛn.ja] ‘habit’, *velja* [vɛl.ja] ‘to choose’, even though they occur initially as onsets in words like *njóta* ‘to enjoy’ and *ljótur* ‘ugly’.

And the same goes for sequences of fricative + /j/, in forms like *teffja* [tʰɛv.ja] ‘to delay’ and *veðja* [vɛð.ja] ‘to bet’, the fricatives belong to the coda, and the /j/ forms an onset to the second syllable. In spite of the fact that the sequences /vj/ and /ðj/ have rising sonority, they are thus not allowed to form internal onsets. Comparing these clusters to parallel sequences in initial position is not entirely straightforward, however. Although examples like *vél* [vɛ:ɫ] ‘machine’ show that /vj/ can occur initially, there is no word initial /ðj/. It is thus not clear how the internal sequence /ðj/ in *veðja* could be correlated to an initial onset. We have seen that internal fricatives tend to be weakened to approximants or glides. This weakening does not seem to affect voiced fricatives in coda position, as in *veðja* [vɛð.ja] ‘to bet’ in the same way as in the case of *taða* [tʰa:(ð)a], and this might suggest that the [ð] in *veðja* is more like a true fricative, although it is possible that the position at the end of the rhyme is a better one, rhythmically speaking. A potential correlation with /θj/ in *þjóta* [θjou.ta] ‘to rush’ might be appropriate, so that coda /ð/ could be seen as a voiced correspondent of [θ] in *þjóta* and then of course the one in *maðkur* [maθkʏɾ] ‘worm’ (with spreading of H from the following stop).

Two approaches come to mind for analysing this difference in the behaviour of interludes. One way might be to account for the difference in the behaviour of the consonant sequences in terms of relational constraints like the syllable contact laws as proposed by Vennemann (cf. Gouskova 2004). But another general approach might be in terms of differences in the limits to information in different phonological positions. Thus it might be proposed that a foot-internal onset offers less room for structure so that these onsets are forced to be less marked or more natural than foot-initial ones. Thus the sonority distance between /n/ and /j/ is great enough to allow /nj/ as an onset in initial position as in *njóta* [njou.ta] ‘to enjoy’, but not enough for it to be allowed as an onset in foot-internal position as in *venja* [vɛn.ja] ‘to train’. We shall return to this question in section 9.6 below.

### 9.3.4 More complicated interludes in Icelandic

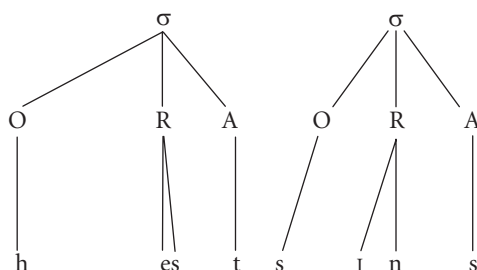
#### Morphological complexity

The morphological makeup of Icelandic frequently has the effect that there is a pileup of consonants in interludes between syllables. This is shown by some of the forms given in (9.6) (p. 147 above): *hestsins* ‘the horse-GEN’, *systkin* ‘siblings’ *holdgast* ‘to incarnate’, *telgdi* ‘carved’, *kvöldsins* ‘the evening-GEN’, *yrðling* ‘fox cub’, *heimskt* ‘stupid-NEUT’, *raspsins* ‘the file-DAT’. The clusters suggested by the spelling are formed when morphemes are added in inflection or word formation.

The phonological reaction to the morphological building up of such complex forms is to accommodate the material as far as possible given the phonological constraints. Thus when a root like *bú* ‘household, inventory’ gets a genitival ending, as in *bús* [pu:s] ‘id.-GEN’, the syllable remains open. But when two consonants (excepting clusters of *p, t, k, s, b, f, + v, j, r*) follow a vowel, the first one joins the rhyme and becomes a

coda, but the second one does not. Thus, as shown in (9.7) (p. 148 above) the [l] in *bóls* [poul.s] ‘bed, place of rest-GEN’ becomes part of a consonantal rhyme, ‘shortening’ the vowel relative to the Nominative *ból* [pou:] ‘bed-NOM’, whereas the [s] becomes extrasyllabic. Similarly, when the noun *hest* ‘horse’, whose nominal form is syllabified as [hes.t], receives the genitival ending -s the *t* is already extrasyllabic, and when a yet further /s/ is added, as in *hests* [hes.t.s], the only option is for it to be extrasyllabic as in (9.8) (p. 148 above), or to form an onset to a following syllable as in (9.49):

(9.49)



But although such forms can be pronounced with all the consonants fully realized (as in *hestsins* [hes.t.sɪn.s], and in other forms corresponding to those listed in (9.6): *systkin* [sɪs.t.kɪn] *holdgast* [hɔl.t.gas.t], *telgdi* [tʰɛl.k.tɪ] ‘carved’, *kvöldsins* [kʰvœl.t.sɪn.s], *yrðling* [ɪr.ð.lɪŋ.k], *heimstkt* [heim.s.k.t], *æskti* [ais.k.tɪ], *raspsins* [ras.p.sɪn.s] etc.) it is more common for the clusters to be simplified in actual utterances, giving forms like [hes:ɪs], [sɪsˈkɪn], [hɔlˈkast], [tʰɛtɪ]/[tʰɛlˈtɪ], [kʰvœlˈsɪs], [ɪrlɪŋk], [heim.st], [raɪstɪ], etc.<sup>8</sup>

We cannot go into all the details of the laws governing these processes of cluster simplification, but the data raise some interesting questions which do not always get clear answers. It is, for example, argued by Coté (2004: 203) that the deletion of segments is driven by perceptual factors such as the lack of audible cues for cluster internal stops, interacting with sonority requirements. However, another general and perhaps more promising approach to the problem is to look for the role of syllabic position or rhythmic prominence. It is true that in the past form *telgdi* [tʰɛtɪ]/[tʰɛlˈtɪ] ‘carved’, the least sonorous segment is deleted. And similarly, stops are deleted in forms like *norðlendskur* [nɔrlenskyɾ]/[nɔrlɛskyɾ] ‘from the north’, compare *Norðurland* and *reykvíkskur* [rei:kviskyɾ] ‘from Reykjavík’, compare *Reykjavík*. But, as admitted by Coté (2004: 239), examples like *gagnðæmi* [kakntaimi]/[kaktaimi] (\*[kaŋtaimi]) ‘counter example’, *regnhlíf* [rɛknɪli:f]/[rɛkɪlif] (\*[rɛŋɪlif]) ‘umbrella’, *gagnlegur* [kagnlɛɣɾ]/[kaklɛɣɾ] (\*[kaŋlɛɣɾ]) ‘useful’ point the other way. The fact that the reduced forms lose the nasal instead of the less sonorous stops rather suggests that it is the position and not the character of the segment which is crucial.

<sup>8</sup> An utterance like [ras:ɪs] for *raspsins* seems to be less likely in the case of *raspsins* ‘file-GEN.DEF’, perhaps due to the fact that this would rhyme with a form like *rassins* ‘the arse-GEN.DEF’. For a treatment of similar phenomena in Icelandic preterite forms, see Coté 2004.

Here again we have an indication that phonotactic positioning has a tendency to control the amount of information allowed.

### Preaspiration in syllabification

The analysis of preaspiration raises some questions regarding syllabification which should be mentioned at this stage. As will be illustrated more clearly in chapter 11 below, there is good reason to syllabify preaspiration in Icelandic as part of the coda following a short vowel. This is shown in (9.50):

- (9.50) /v ah t n/      *vatn* [vah.t̪n̥] ‘water’  
           /k<sup>h</sup>v ih k n a/    *kvikna* [k<sup>h</sup>vih.kna] ‘to lighten up’  
           /v ɔh p n a/      *vopna* [vɔh.pna] ‘weapons-ACC’  
           / ah t l a/      *Atla* [ah.tla] ‘Attila, a man’s name’

Two related arguments can be given for syllabifying preaspiration as a part of the coda in Icelandic. On the one hand, only short vowels can occur before preaspiration in MI, which indicates that the preaspiration belongs in the rhyme, rather than being a part of the following onset. And another fact pointing in the same direction is that the increased length, or ‘half length’, which comes with accentuation is realized in the aspiration in *kvikna* [kfihːkna] ‘to lighten up’ in the same way as on the /s/ in *hestur* [hesˈtʏr̥] ‘horse’. Thus it seems natural to take the aspiration (and not the sequences [ht], [hk], [hp] or the stops [h̥t], [h̥k], [h̥p]) as forming part of the rhyme.

But if this is so, referring to the hypothesis mentioned above that internal onsets should be more restrictive than initial ones, a new question arises regarding syllabification of forms like *vatn*, *kvikna*, *vopna*, and *Atla*, if they are to be syllabified with a boundary between the aspiration and the stop, as [vah.t̪n̥], [k<sup>h</sup>vih.kna], [vɔh.pna], and [ah.tla]. The question is where in the syllabic template to place the sequences /tn/, /kn/, /pn/, and /tl/. One possibility is to see them as onsets to the following syllables, and in fact they all have rising sonority. But the problem is that not all of them occur word initially. Thus although /kn/, /kl/, and /pl/ occur word initially, as in *gnauða*, *blása*, *glápa*, there are no native forms starting with /tl/, /pn/. This would mean, assuming that /pn/ and /tn/ are well formed internal onsets **and** that the internal onsets form a subset of the initial ones, that their absence in word-initial position is accidental.

Another option is to take /tn/, etc. as sequences of extrasyllabic consonants or internal onsets without supporting rhymes, that is to syllabify the forms as [vah.t̪.ŋ], [k<sup>h</sup>vih.k.na], [vɔh.p.na], etc. This latter option is taken in Árnason (2005: 216–17), which means that the syllabification in *kvikna* [k<sup>h</sup>vih.k.na] is of the same type as in forms like *sökkti* [sœh.k.t̪] ‘made sink’ in a very clear style of pronunciation. However, since the sequence /kt/ does not have rising sonority, it might be argued that there is a structural difference. And in fact it is common for forms like *sökkti* to undergo frication of the stop, giving a pronunciation like [sœxt̪t̪]. This does not happen in forms such as *kvikna* or *vopna*, which are rarely if ever pronounced \*[k<sup>h</sup>vixna] or \*[vɔfna]. This might suggest that the interlude in /vɔh.pna/, etc., where

we have rising sonority and a potential onset, is in fact less marked than /söh.kti/, where we would have an onset without rising sonority.

Also, the development of epenthetic stops between continuant codas and non-continuant sonorants in following onsets suggests that rather complex onsets are allowed in internal position in MI: *barnið* [par.tnɪθ] ‘the child’, *veisla* [veis.tla], creating new stop + sonorant sequences in internal position. And, interestingly enough, there is no such tendency in the modern language for clusters like /ns/, /nf/, /nθ/—*einsog*, *innfyr*, and *ennþá*—to develop epenthetic stops, giving something like \*[eintsɔx], \*[ɪmpfɪrɪɿ], [ɛntθau:] ‘still’, which would create a different type of onset of initial stop + fricative clusters or affricates.<sup>9</sup>

All in all it would seem, judging from the current or traditional vocabulary, that it is not strictly true that word internal onsets in Modern Icelandic form a proper subset of initial ones; although many of the observations made above might seem to support such a hypothesis, there is some ambivalence. And in light of the fact observed in section 9.1.5 above that, given the right conditions, all syllables in Modern Icelandic are stressable, this is perhaps not surprising. If it is true that any Icelandic syllable can be accented, this implies that all internal onsets can be elevated to the status of accented onset by resyllabification in emphatic re-phrasing. So, although the phonotactics of the traditional vocabulary tend to limit the options in internal onsets, postlexical rhythmic reorganization may seem to relax the restrictions.

## 9.4 THE CONSONANTAL PHONOTACTICS OF FAROESE

Somewhat similar problems arise when it comes to analysing the consonantal phonotactics of Faroese, as we shall see in this section. (See Bjerrum (1964) for a glossematic account of the Faroese consonant, and Rischel (1972) for a generative account of some consonantal relations.)

### 9.4.1 Monosegmental onsets

As in Icelandic, there is an opposition between fortis (aspirated) and lenis (unaspirated) stops in initial position in Modern Faroese, as shown in (9.51):

- |        |  |                                 |
|--------|--|---------------------------------|
| (9.51) | <i>peika</i> [p <sup>h</sup> ai:ka] ‘to point’ | <i>bera</i> [pe:ɹa] ‘to carry’  |
|        | <i>tosa</i> [t <sup>h</sup> o:sa] ‘to speak’   | <i>dalur</i> [tɛa:lʊɹ] ‘valley’ |
|        | <i>kemur</i> [ɿ <sup>h</sup> e:mʊɹ] ‘comes’    | <i>gefa</i> [tʃe:va] ‘to give’  |
|        | <i>hjá</i> [ɿ <sup>h</sup> ɔa:] ‘by’           | <i>gjald</i> [tʃalt] ‘payment’  |
|        | <i>kola</i> [k <sup>h</sup> o:la] ‘lamp’       | <i>gamal</i> [kɛa:mal] ‘old’    |

<sup>9</sup> Such an epenthesis of a stop between an /s/ and a preceding /l/ or /n/ is known at earlier stages, as shown by twelfth to fourteenth century spellings like *mannz* and *allz* for genitival forms corresponding to MI *manns* ‘man-GEN’ and *alls* ‘all-GEN’. The letter *z* in these forms stands for [ts] (cf. Benediktsson 1965: 74–6).



## 9.4.2 Initial clusters in Faroese

The possibilities for stop initial clusters in Faroese are listed below, classified according to the manner and place of the first sound:

(9.55) <i>Fortis</i>	<i>Lenis</i>
Labial	
<i>pjátra</i> [p <sup>h</sup> jɔɑ:( <sup>h</sup> )tra] ‘to speak gently’	<i>bjarga</i> [pjaɪka] ‘to save’
<i>planki</i> [p <sup>h</sup> laɲiʈɪ] ‘plank’	<i>blað</i> [plɛɑ:] ‘blade, sheet of paper’
<i>prestur</i> [pɹɛstʊɪ] ‘priest’	<i>breiður</i> [prai:jʊɪ] ‘broad, wide’
Alveolar	
<i>tráður</i> [t <sup>h</sup> rɔɑ:vʊɪ] ‘thread’	<i>draga</i> [tre:a] ‘to drag, pull’
<i>tvagla</i> [t <sup>h</sup> vakla] ‘to walk slowly’	<i>dvali</i> [tvɛɑ:lɪ] ‘heavy sleep’
Velar	
<i>klaki</i> [k <sup>h</sup> lɛɑ:( <sup>h</sup> )ʈɪ] ‘ice’	<i>gláður</i> [klɛɑ:vʊɪ] ‘happy’
<i>krani</i> [k <sup>h</sup> rɛɑ:nɪ] ‘crane’	<i>greiður</i> [krai:jʊɪ] ‘easy’
<i>hvalur</i> [k <sup>h</sup> fɛɑ:lʊɪ] ‘whale’	<i>gvagg</i> [kvak:] ‘quacking’
<i>kvistur</i> [k <sup>h</sup> fɪstʊɪ] ‘branch’	
<i>knappur</i> [k <sup>h</sup> na <sup>h</sup> p:ʊɪ] ‘button’	<i>gneggja</i> [knɛʈɪ:a] ‘to neigh’

The voiceless /f/ can join sonorants, as shown in (9.56):

- (9.56) *fjall* [fjatl] ‘mountain’  
*flagg* [flak:] ‘flag’  
*frami* [frɛɑ:mɪ] ‘progress, help, support’

The alveolar /s/ can join stops and sonorants, as shown in (9.57):

- (9.57) *spakur* [spɛɑ:(<sup>h</sup>)kʊɪ] ‘quiet’  
*spjaldur* [spjaltʊɪ] ‘board, plaque’  
*springa* [sprɪŋka] ‘to run’  
*stapi* [stɛɑ:(<sup>h</sup>)pɪ] ‘a cliff’  
*stjórn* [stjœtɲ] ‘governing body, board’  
*stjørna* [ʃœtna]/[stjœtna] ‘star’  
*streva* [stre:va] ‘to work hard’  
*skaði* [skɛɑ:jɪ] ‘damage’  
*skriva* [skri:va] ‘to write’

The only combination of /s/ with a fricative is /sv/, as in (9.58):

- (9.58) *svartur* [sfaʋtʊɪ] ‘black’

As in Icelandic, /s/ can be followed by laterals and nasals as shown in (9.59):

- (9.59) *sláa* [slɔɑ:a] ‘to strike’  
*sleppa* [s<sup>h</sup>lɛ<sup>h</sup>p:a] ‘release’  
*smakur* [sma:kʊɪ] ‘taste’  
*snúgva* [snɪkva] ‘to turn’



Unlike Icelandic, the insertion of an epenthetic stop between /s/ and a following lateral or nasal seems to be rare in Faroese, as indicated in the transcription.

Because of its history and as reflected in the spelling, resulting from palatalization and cluster simplification, the palato-alveolar /ʃ/ does not join other sounds in initial onsets; consider examples like *skjaldur* [ʃaldʊɹ] ‘a nursery rhyme’, *sjálvur* [ʃɔlvʊɹ] ‘self’, *skip* [ʃi:p] ‘ship’.

The set of initial clusters starting with sonorants is shown in (9.60):

- (9.60) *mjólk* [mjœlk] ‘milk’  
*njóta* [nʲɔu:ta] ‘to enjoy’  
*rjóta* [ɹʲɔu:ta] ‘to snore’  
*ljótur* [ljɔu:tʊɹ]/[ɬɔu:tʊɹ] ‘ugly’

Thus the sonorants /m/, /n/, and /r/ can combine with /j/, and although the most common pronunciation of written *lj* in words like *ljótur* ‘ugly’ is single [j] or [ɬ], the pronunciation [lj] may also be heard.

Basically, the onset inventory of Faroese does not raise any special questions regarding linguistic analysis. Except for the /s/-onsets, they conform to sonority sequencing, and as in Icelandic they are rich relative to other positions.

#### 9.4.3 Faroese coda consonants

As in Icelandic, the melodic character of coda consonants is relatively varied, due to the spreading of features from following consonants. Thus, principles such as devoicing and place assimilation increase the number of phonetic differences.

The following consonantal sounds can occur in codas following short vowels in Modern Faroese:

- (9.61) Voiced sounds: l, ɬ, m, n, ɲ, ŋ, r  
*halda* [hal.ta] ‘to think’, *elgja* [ɛɬ.ʃa] ‘to gulp’, *lamb* [lam.p] ‘lamb’, *land* [lan.t] ‘land’, *leingi* [lɔɲp.ʃi] ‘for long’, *langur* [lɛŋ.kʊɹ] ‘long-MASC’, *farnir* [faɹ.nɹ] ‘gone-PL.MASC’, *hoyrði* [hɔi.ɬ.tɹ] ‘heard’

As in Icelandic, place agreement between a nasal in the coda and a following onset gives velar and palatal nasals, and the spreading of place also affects the lateral in forms like *elgja* [ɛɬ.ʃa] ‘to gulp’.

The selection of sounds is even greater when it comes to voiceless sounds, due to (historical) spreading of H into the coda from a following fortis stop. This gives voiceless sonorants in forms like *lampa* [lam̥pa] ‘lamp’ and *altíð* [aɬtʰi] ‘always’, etc. And furthermore aspirated and unaspirated plosives and /s/ can occur in the coda, as shown in (9.62):

- (9.62) Voiceless sounds: p, t, k, <sup>h</sup>p, <sup>h</sup>t, <sup>h</sup>k, f, s, ɬ, ɸ, m̥, n̥, ɲ̥, ʃ̥, ʈ̥, ʈ̥̥  
*loypiti* [lɔip.tɹ] ‘ran’, *hella* [het.la] ‘a flat rock’, *eydnast* [eit.nast] ‘succeed’, *gignast* [ʃɪk.nast] ‘succeed’, *søkt* [sœ<sup>h</sup>k.t] ‘sunk’, *bygd* [pɪk.t] ‘village, community’, *vaksa* [vaksa] ‘to grow’, *regn* [rɛk.ŋ] ‘rain’, *veðrið* [vɛ<sup>h</sup>k.rɹ] ‘the weather’, *dripnar* [tri<sup>h</sup>p.naɹ] ‘killed-PL.FEM’, *vatnið* [va<sup>h</sup>t.nɹ] ‘the water’,

*vakna* [va<sup>h</sup>k.na] ‘to wake up’, *haft* [haf.t] ‘had’, *gista* [ʈʰis.ta] ‘sleep over’, *altíð* [a<sub>l</sub>.tøi] ‘always’, *kjálki* [ʈʰɔ<sub>l</sub>.ʈʰi] ‘jaw’, *lampa* [lam.pa] ‘lamp’, *vænta* [vaŋ.ta] ‘expect’, *banki* [paŋ<sub>l</sub>.ʈʰi] ‘bank’. *onkur* [ɔŋ<sub>l</sub>.kø.ɪ] ‘someone’, *danskt* [taŋ<sub>l</sub>.st] ‘Danish’, *erpin* [ɛ<sub>l</sub>.pɪn] ‘proud’, *arbeiði* [a<sub>l</sub>.peiɹi] ‘work’, *hvørt* [kfœ<sub>l</sub>.t] ‘where, whether’

A noticeable difference from Icelandic is that in forms like *loypti* [lɔip.ti] ‘ran’, *søkt* [sœk.t] ‘sunk’, *bygd* [pɪk.t] ‘village, community’, and *vaksa* [vak.sa] ‘to grow’, Faroese has stops before other stops and /s/ whereas Icelandic mostly has fricatives before stops and /s/, as in *hleypti* [l̥eifti] ‘released’ and *reykti* [reixti] ‘smoked’ and *vaxa* [vax.sa] ‘to grow’.

A special problem, which will be discussed more fully in Chapter 11 below, is how to analyse preaspiration (both in Icelandic and Faroese). There it will be argued that in Faroese forms like *dripnar* [trɪ<sup>h</sup>p.naɪ] ‘killed-PL.FEM’, *vatnið* [va<sup>h</sup>t.ni] ‘the water’, *vakna* [va<sup>h</sup>k.na] ‘to wake up’, both the preaspiration and the closure belong to the coda. This is different from Icelandic, where it is assumed that only the preaspiration and not the stop is in the coda. For Faroese, this means that an extra set of sounds, that is fortis and preaspirated [ʰp], [ʰt], and [ʰk], are allowed as coda segments. Similarly, in MF forms like *hoppa* [hɔ<sup>h</sup>p.pa] ‘to hop’, *átta* [ɔ<sup>h</sup>t.ta] ‘eight’, and *okkurt* [ɔ<sup>h</sup>k.kø.ɪt] ‘something’, the first part of the geminate is taken to form the coda of the preceding syllable and the second part the onset of the following syllable.

A voiceless velar fricative rarely occurs in a Faroese coda, since frication of stops before /t/ and /s/ is only sporadic, so that a form like *spakt* ‘quiet-NEUT’ (cf. *spakur* [spea:(<sup>h</sup>)kø.ɪ] ‘quiet-MASC’) normally has a stop, [spa<sup>h</sup>k.t], unlike Icelandic *spakt* [spaxt],<sup>10</sup> and similarly Faroese *vaksa* [vak.sa] ‘to grow’ has a stop compared to Icelandic *vaxa* [vax.sa].

Other differences between Faroese and Icelandic can be noted in the contact between a coda and a following onset. Thus, there is little or no tendency to insert an epenthetic /t/ between an /r/ and a following /n/ or /l/ in Faroese, as shown in (9.63):

- (9.63) *farnir* [faɪ.nɪɪ] ‘gone-MASC.PL’ (cf. *farin* ‘gone-SG’)  
*ernar* [ɛɪ.naɪ] ‘proud-FEM.PL’ (cf. *errin* ‘proud-SG’)  
*varnast* [var.nast] ‘notice’  
*harðna* [har.na] ‘get hard’  
*smyrlar* [smɪ.ɪlaɪ] (from SG *smyril*) ‘Falco columbarius-PL’

Corresponding forms in Icelandic have regular epenthesis of [t]: *farnir* [fartnɪɹ] ‘gone’, *varnast* [vartnast] ‘to avoid’.

An interesting case of interaction between a coda and a following onset is shown in forms like *danskt* [taŋ<sub>l</sub>.st] ‘Danish-NEUT, the Danish language’, *enskt* [ɛŋ<sub>l</sub>.st] ‘English-NEUT, the English language’ (cf. *danskur* [taŋskø.ɪ] ‘Danish-MASC’ and *enskur* [ɛŋskø.ɪ] ‘English-MASC’). In these forms the stop character of the velar, which appears in the masculine forms, is deleted in the neuter forms before /t/, but the

<sup>10</sup> There are some signs of frication in forms like these in the dialect of Suðuroy. (Eivind Weyhe p.c.)

velar articulation and the corresponding resonance is transposed over the /s/ by some sort of metathesis, giving a velar nasal.<sup>11</sup> It is not entirely clear how this should be analysed in terms of elemental structure or templatic relations.

The fact that the velar nasal appears (as in Icelandic *lengd* [leɪŋt] ‘length’) in non-velar surroundings may perhaps be taken to suggest that it is an independent place of articulation, even if characterized by headlessness—compare example (7.8) in section 7.5. Another case of metathesis between /s/ and /k/ in morphophonemic relations occurs in forms like *feskt* [fɛ<sup>h</sup>k.st] ‘fresh-NEUT’, cf. *feskur* ‘fresh-MASC’ (Petersen 1999; Rischel 1972). But interestingly there is no metathesis in forms like *norskt* [nɔʂt] ‘Norwegian-NEUT’, *írskt* [ʊʂt] ‘Irish-NEUT’ or *engilskt* [ɔŋɔʂt] ‘English-NEUT, from England’. Here the velar is simply deleted and left without a trace and there is no velarizing effect on the reflexes of /r/ or /l/, to the extent that they surface in the output (with retroflexion in the case of /r/).

#### 9.4.4 Internal onsets in Faroese

We saw in section 7.2.1 that, as in Icelandic, the difference between fortis and lenis consonants is neutralized intervocalically in the traditional vocabulary, but with varying realization, there being ‘hard’ varieties where intervocalic consonants may be (pre)aspirated, and ‘soft’ ones with corresponding unaspirated stops. In the hard varieties, forms like *pápi* ‘daddy’, *bátur* ‘boat’, *baka* ‘bake’, where the preceding vowel is low, have preaspiration: [p<sup>h</sup>ɔɑ:<sup>h</sup>pɪ], [pɔɑ:<sup>h</sup>tʊɪ], [pɛɑ:<sup>h</sup>ka], whereas after long high vowels, for example in words like *brúka* [pɹæu:ka] ‘to use’, *víkar* [vøi:kaɪ] ‘bay-GEN’, no aspiration is allowed after a long vowel. (There are some exceptions from this in *Suðuroyarmál*, where i-diphthongs (which in this variety may be long before geminates) can precede aspiration, cf. section 11.3, fn. 9, p. 228).

The fact that a preaspirated stop can follow a long vowel in an open syllable and form part of an onset to the following one implies an interesting difference between Icelandic and Faroese in the anchoring of aspiration. In MF *bátur* [pɔɑ:<sup>h</sup>tʊɪ] ‘boat’, the [H] element seems, in fact, to be properly analysed as a feature belonging to the fortis stop, whereas, as we will argue in Chapter 11, in Icelandic the preaspiration has been separated from the stop and forms a ‘fully-fledged’ independent segment.

It is worth noting that the difference in the realization of aspiration in the two languages connects with the principle of sonority sequencing in an interesting way. Presumably, aspiration is more sonorous than a stop, which means that it tends to be closer to the nucleus (as aspiration before vowels and preaspiration after vowels). Thus the sequence /hp/ in Icelandic *hoppa* [hɔhpɑ] ‘to hop’ has falling sonority which would make it highly marked as an onset. It might be said that the same should apply to preaspiration in Faroese, that is that a preaspirated stop should be bad as an onset.

<sup>11</sup> In Icelandic there is no such metathesis or velarization of the nasal in the corresponding forms *enskt* [ɛnst] ‘English-NEUT’ and *danskt* [tanst] ‘Danish-NEUT’. But, as was seen in section 6.4, the lateral may be velarized, as in Icelandic *telgdi* [tɛlttɪ] ‘carved’ and *sigldi* [sɪlttɪ] ‘sailed’ (cp. *telgja* [t<sup>h</sup>ɛlca] ‘to carve, *sigla* [sɪkla] ‘to sail’), but this time there is no velarization in the corresponding Faroese form: *teir sigldu* [sɪltu] ‘they sailed’ compared to *sigla* [sɪkla] ‘to sail’.

But if preaspiration is a segmental feature, as we assume it to be in Faroese, the problem does not arise at the input level; the fortis stop as a segment is a good onset, even if the phonetic realization of the aspiration precedes the closure of the stop, as in *bátur* [pɔa.<sup>h</sup>tʊɪ]. But, at the same time, the preceding rhyme supplies a sonority maximum for the realization of the aspiration. Taking aspiration in the hard dialect as a feature of the segment makes the [ʰt] in *bátur* [pɔa.<sup>h</sup>tʊɪ] ‘boat’ a counterpart to the fortis initial onset in *tala* [tʰɛa:la] ‘to speak’. It is another matter why, in the case of MF ‘hard speech’, the internal aspiration is not simply realized as postaspiration. For some reason there seems to be a general constraint in MF against the full release of plosives with a delay of voice onset in internal position. But as we saw in section 7.2.2, the fortis–lenis opposition in internal onsets is only marginal in Modern Faroese.

Assuming open syllabification in forms with long vowels, the MF length rule gives complex internal onsets in forms like the ones in (9.64):

- (9.64) *vakrir* [vɛa:.(<sup>h</sup>)kɪɪɪ] ‘beautiful-MASC.PL’  
*epli* [ɛ:.(<sup>h</sup>)plɛ] ‘potato’  
*bekla* [pe:.(<sup>h</sup>)kla] ‘walk crookedly’  
*daprir* [tɛa:.(<sup>h</sup>)pɪɪɪ] ‘sad-PL’  
*akrar* [ɛa.(<sup>h</sup>)kɪar] ‘fields’  
*miklir* [mɪ:klɪɪɪ] ‘great-MASC.PL’

All of these onsets also occur initially, cf. for example *króna* [kʰɪɔ:na] ‘crown’, *planta* [pʰlaŋta] ‘plant’, *klókur* [kʰɪɔ:kʊɪ] ‘smart’.

As has been noted many times, there are no intervocalic fricatives in Faroese native words, the most typical continuant interludes being glides, as in *gladur* [klea:vʊɪ] ‘happy’, *bóða* [pu:wa] ‘to tell’. But, as in Icelandic, /f/ occurs in loans such as *sofa* [so:fa] ‘sofa’ and *saffrur* [sa’fʊi:ɪʊɪ] ‘sapphire’. In the latter case, the stress on the second syllables makes the /f/ foot-initial. It is not clear whether this means that internal voiceless fricatives are phonologically permissible in MF, or whether some sort of pseudo-morphology should be assumed.<sup>12</sup> A long or geminate intervocalic fricative also occurs in onomatopoeic words like *suffa* [sof:a] and *huffa* [hof:a] ‘to sigh’.

The sonorants which occur as internal onsets are /m/, /n/, /l/, and /r/, as shown in (9.65):

- (9.65) *koma* [kʰo:ma] ‘to come’  
*kona* [kʰo:na] ‘woman’  
*bera* [peɛ:ɪa] ‘to carry’  
*tola* [tʰo:la] ‘to bear’

To conclude, the overview given above suggests that the set of simple and complex internal onsets in Faroese is a proper subset of the initial ones. All

<sup>12</sup> One way of testing this might be to see if the vowel in *sofa* reduces to [ə] or whether it remains an [a] in all styles. If the latter is the case, the second syllable might be interpreted as a full one.

consonants and consonant clusters which can form internal onsets can occur in initial position.

## 9.5 GEMINATION OF GLIDES AND CONSONANTS

It was mentioned in section 4.1.5 that in Icelandic it may not be clear where we should put the boundary between the two syllables in the diphthongal variants of forms like *daginn* [taijɪn] ‘the day’, *boginn* [pɔijɪn] ‘the bow’, and *stigi* [sti:ji]/[sti:ji] ‘ladder’, which also have alternant dialect realizations as [ta:jɪn], [pɔ:jɪn] and [sti:ji]. The general principle, as we have seen, is that when we have a long vowel, the syllabic boundary occurs before the consonant, as in *ta.ka* [tʰa:.ka] ‘to take’ and *vi.nur* [vi:.nʏr] ‘friend’. By this measure, the monophthongal or long vowel variant of *daginn* and *boginn* clearly syllabify as [ta:.jɪn], [pɔ:.jɪn], and [sti:.ji]. But since the transition between the two syllables in the diphthongal variant involves glide-like articulation, both in the vocalic nucleus and the onset of the following syllable, the question of where one syllable ends and the other starts is less clear.

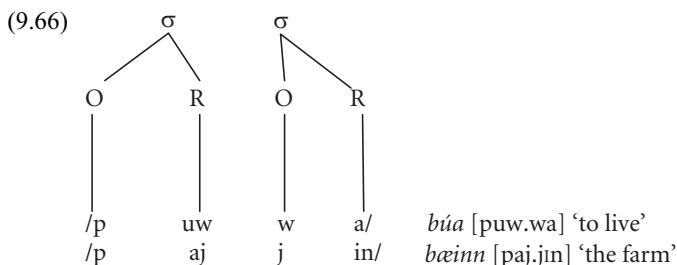
If we take a transcription like [taijɪn] for *daginn* literally, we should place a syllable boundary after the diphthong and before the [j]: [tai.jɪn]. But it is not clear that there is a significant difference between a transcription like [tai.jɪn] with a diphthong and [taj.jɪn] with a geminate glide. In fact, when lengthening occurs on the first syllable due to stress, this is likely to be realized on the glide or second part of the diphthong, which should then be transcribed as [tai:.jɪn] or [taj:.jɪn], or, ignoring the syllable boundary: [taj:.ɪn]. Whichever transcription is chosen, it seems clear that the palatal glide creates a bridge between a short vowel in the first and the second syllable. The difference between the two variant pronunciations then lies in syllabification and the length (or shortness) of the vowel. The ‘monophthongal’ pronunciation of *daginn* is then [ta:.jɪn] with a long vowel, and the corresponding ‘diphthongal’ pronunciation has a short vowel followed by a long or geminated glide: [taj(ː).jɪn].

Analysing forms like *daginn* and *boginn* as having geminated palatal glides on the border of the first and second syllable, [taj.jɪn] and [pɔj.jɪn], opens up the possibility of comparing them to forms where Icelandic velar glides seem to have a similar function and form the transition between the first and second syllable of a disyllable. In Modern Icelandic the forms written *kúa* ‘cows-DAT’, *kúga* ‘to suppress’, and *kúfa* ‘heaps’ can have the same pronunciation, which is often transcribed: [kʰu:wa] with a long high vowel [u] followed by a glide, but might as well be transcribed as [kʰuw.wa] in the manner of [stij.jɪ] for *stigi* ‘ladder’ (see above). As suggested by the spelling, this involves a historical deletion of velar and labial fricatives in the case of *kúga* and *kúfa*, that is after a [u]. The same applies after [u]-diphthongs, as in *máfur* ‘seagull’ and *mágur* ‘brother in law’ [mauwyɾ]/[maw.wyɾ] and *rógur* ‘slander’, *rófur* ‘turnips’ [rouwuɾ]/[row.wyɾ]. Here we have the same dilemma concerning the phonetic transcription: whether to analyse the first syllable as ending in a glide, preceded by a short vowel, so that *rófur/rógur* is seen as [row:ɥɾ], *mágur/máfur* as [maw:ɥɾ] and

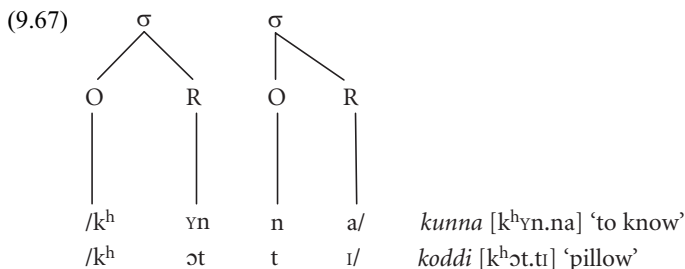
*kúa/kúga/kúfa* as [k<sup>h</sup>uw:a], or to see them as sequences of a high vowels and a glide: [mau:wɥ], [k<sup>h</sup>u:wa].

In some cases there is morphophonemic alternation reflecting the historical deletion of fricatives: *kúfur* [k<sup>h</sup>uwɥɤ] – *kúfnum* [k<sup>h</sup>upnɥm]; *bjúga* [pjuwa] ‘sausage’ – *bjúgna* [pjukna] ‘sausage-GEN-PL’. These forms mirror the development of fricatives into stops before a nasal (cf. section 2.8) and the deletion of the fricatives after the high vowels. The loss of the labial and velar fricatives in *kúfur* and *kúga* is reminiscent of the loss of the originally velar fricative in forms like *baginn* ‘the inconvenience’ [paijɪn], or [pa:jɪn] which is homophonous with *bæinn* ‘the farm’ [paijɪn]. Similarly, we can say that in the forms [kuw.wɥ] and [kuw.wa], the second syllable starts with a glide or approximant [w], which then has a similar status to the [j] in *bæinn*/*baginn*.

In light of the discussion given above, we can present the following analysis, which sees the glides in the forms in question as geminates, forming a coda in the first syllable and an onset to the second syllable, namely as true geminates, as shown in (9.66):

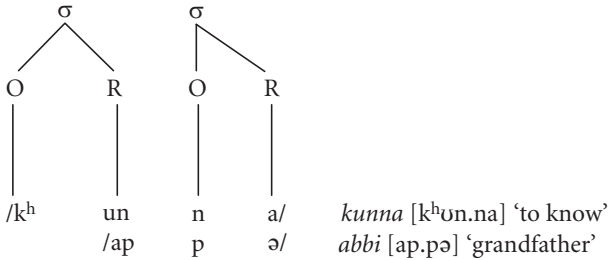


This structure is then parallel to that of forms involving proper geminate consonants, as in (9.67):



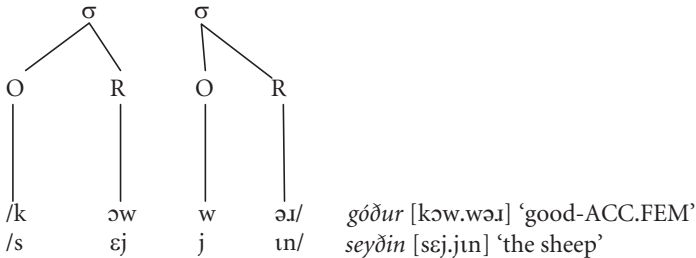
Mutatis mutandis, the template used in (9.66) and (9.67) can be used to represent parallel forms in Faroese. Thus forms like *abbi* ‘grandfather’ and *kunna* ‘to know’ can be represented as in (9.68):

(9.68)



We saw in Chapter 5.6 that Faroese intersyllabic glides occur in forms of the sort shown for Icelandic in (9.66). Thus, forms like *seyðin* [sei:jʊn] 'the sheep-ACC', and *góður* [kɔw:wɔɹ] 'good' can be seen as having geminate glides, something like [sej.jʊn] and [kow.wɔɹ], as shown in (9.69):

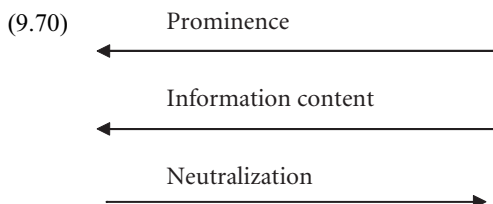
(9.69)



## 9.6 CONCLUSION: REMARKS ON SYSTEMIC STRUCTURE AND PROMINENCE

We have seen that, both for vowels (Chapter 8) and consonants (this chapter), there are principled differences in the inventory of segments or number of contrasts which can be made in each environment or constituent, so that some syllables and subsyllabic constituents carry more information than others. The clearest instance is the diasystemic structure for Faroese vowels with a difference between open and closed syllables and a difference between the full and restricted syllables.

Since in Modern Faroese full syllables carry more information than restricted syllables, and vowels in open syllables are more varied and carry more information than those of closed syllables, we have a sort of scale of vocalic neutralization, as displayed in Table 8.1, p. 136. And assuming that this scale of neutralization is inversely proportional to something we might call prominence, so that informational content correlates directly with this prominence, the relation can be illustrated as in (9.70):



The exploration of consonantal phonotactics presented in this chapter further suggests that, for Faroese at least, similar relations affect the freedom regarding distinctions in consonants in different phonological constituents. A case in point is the difference in permissible onsets according to whether they are word- (or foot-) initial or internal. The number of oppositions allowed in Faroese internal onsets is clearly more limited than for initial onsets, and this is also true to some extent of Icelandic, although the evidence is more ambiguous, as we saw in section 9.3.4. Furthermore both languages show a tendency to reduce extrasyllabic consonants in interludes. Regarding codas, we have seen that options in codas are also limited, but there is a tendency to move information into codas from following onsets.

To sum up the results of the survey in Chapter 8 and this chapter, the environments for vowels allowing different amounts of information in Modern Faroese, ordered according to what may be called phonotactic prominence, are shown in (9.71):

(9.71) Open syllables > Closed syllables > Restricted syllables

And as regards different environments for consonants, a tentative proposal for a phonotactic prominence cline might look something like what we see in (9.72):

(9.72) Initial onsets > Internal onsets > Codas > Extrasyllabic consonants

The trees used here to represent the constituent structure do not as such supply a simple graphic tool for capturing the difference in prominence between full syllables and restricted syllables, or between open and closed syllables, initial and internal onsets, etc., but it would seem to be possible to devise such tools (see Anderson and Ewen (1987) for such considerations).

It is beyond the scope of the present work to propose an explicit description or formalization of the principles which lie behind the relation between prominence and the amount of information allowed in various positions, but it seems that harmonic scales of the type first proposed by Jespersen (1904) and further explored in later work (see, e.g., Gouskova 2004: 208 for a recent discussion) are useful tools for this study. Such scales supply means for describing varying degrees of harmony between template positions like coda and onset or moraicness (i.e. 'prosodic activity', cf. Hayes' characterization, see p. 188ff. above) and segmental properties such as sonority or informational complexity in terms of element structure of segments and the complexity of clusters.

And obviously there are differences between languages. The relations schematized in (9.70) apply more clearly to Faroese than to Icelandic. Since all Icelandic syllables are 'equal', there is no special system for restricted syllables, and although Icelandic



open syllables and closed syllables show a tendency towards developing different systems, these tendencies are not uniformly such as would lead to fewer contrasts in the closed syllables. In fact the *fálmaeli* variant seems to go the other way, namely (for a different reason) tending towards neutralization in open syllables.

One more point must be made at this stage: it was pointed out in section 8.2.2 that the concept of prominence might not be a monolithic concept. In particular, the interplay of postlexical arrangement and phonotactics, which formed the basis of the four degrees of stress traditionally assumed for Faroese syllables, calls for a distinction between **rhythmic prominence** and **phonotactic prominence**. For Faroese, the phonotactic distinction is that between full and restricted syllables, and the rhythmic difference distinguishes between relatively strong syllables of each type (main stress or secondary stress in full syllables, *levis* in the case of restricted syllables) and relatively weak ones (lack of stress in full syllables, *levissimus* in restricted syllables).

We shall see in following chapters that rhythmic prominence is closely connected to the accentual patterns of outputs or actual utterances. But the description of phonotactics and syllable structure given above has paved the way for connecting the subword and subsyllabic structure to postlexical relations, including stress patterns and intonation. This phonotactic organization has an effect on the way the input strings are realized, basically because of the differences in their **availability for accentuation or prosodic activeness**. Thus the sense in which the vowels of closed syllables are less prominent is that they do not take part in the realization of the accent, which is partly realized by stretching the rhyme. The short vowels are thus less prominent in not being placed at the end or edge of the rhyme. The character of these relations and the character of length and duration will be the subject matter of the next chapter.

## LENGTH AND QUANTITY IN ACCENTUATION AND PHONOTACTICS

We have seen that, according to the ‘New Order’ (cf. sections 2.3 and 9.1.2), stress in Modern Icelandic and Faroese is monosyllabic, being placed on a single ‘heavy’ rhyme. Our languages differ in this respect from languages such as English and German, which allow stress to be realized on short or light syllables so that two syllables are allowed to bear the stress in ‘moraic trochees’ (cf. Hayes 1995: 71 ff.). Allen (1973) characterizes the latter type of structure such that the two syllables form a ‘disyllabic stress matrix’, the effect being that words like English *silly* and German *bitte* ‘please’ are stressed without lengthening the initial syllable (at least in the same way as in Modern Icelandic). And we saw in section 2.1 (cf. also Riad 1992) that Old Nordic had a similar structure, which has survived in some modern dialects, including Finland Swedish (see Excursus below).

Modern Icelandic and Faroese, then, have a monosyllabic stress matrix, and the foot type is syllabic trochee. The ‘New Order’ can be analysed in terms of two types of syllabic templates, VC rhymes (i.e. closed syllables) and V rhymes (open syllables). (As was shown in Chapter 8, the long and the short vowel systems, corresponding to the typology of rhymes, are drifting apart, so that there are two classes of vowels: those suitable for open syllables, and those suitable for closed syllables.)

The stress is realized in the form of a lengthening of the rhyme and of tonal accents, that is rises and/or falls, timed relative to the stress matrix (cf. section 15.2). If the syllable is open, the lengthening typically stretches the vowel, as in MI *tala* [t<sup>h</sup>a:la], but if the vowel is short, the lengthening may be realized on the consonant, as in MI *hestur* [hɛsˈtʏr̥]. The [ˈ] represents the traditionally defined ‘half length’, but this length can be quite distinct so that it would be appropriately denoted by a full [:], as in [hɛs:ˈtʏr̥].<sup>1</sup>

According to the analysis presented in Hayes (1995: 188–98; cf. Árnason 1985a) the word-stress structure of Modern Icelandic involves a branching of words into syllabic trochees. In the unmarked case the leftmost syllable is assigned the main stress, but secondary stress is normal on alternating syllables. Conversely, the unmarked phrasal stress in Icelandic is right-strong so that the nuclear accent occurs on the stressed syllable of the rightmost word. But, as we have seen (e.g. in section

<sup>1</sup> See Dehé 2010: 45–6 for a recent phonetic study, showing that under accent, the average duration of the closed syllables is actually longer than that of the open ones. This study also shows that syllables carrying early accents are longer than syllables taking the later accents (see section 14.5.2 below).

8.1.3), contrastive stress may be placed on other constituents, including syllables which normally do not take word stress (see also section 14.3.1 below and Árnason 1999: 570).

## 10.1 LENGTH AND QUANTITY IN ICELANDIC

### 10.1.1 *Some distinctions*

Although phonological length might seem to be a relatively simple phenomenon, there is more to it than meets the eye, and before going any further, a few distinctions should be mentioned which seem to be fundamental to the understanding of length and quantity relations in general and in our two languages in particular.

#### Length, duration, and quantity

The most obvious distinction regarding length in language is the one noted by Lehiste (1970: 41 ff.) between the **duration** of chunks of speech (segments, syllables, or feet), and what she calls **quantity**, the latter being defined as ‘duration when it functions as an independent variable in the phonological system of a language’. Duration should be measured in absolute terms or some universal set of units, whose interpretation does not depend on linguistic structure, general or language-particular, whereas according to Lehiste, quantity is the linguistically significant application of durational differences. But linguistic quantity has more than one aspect, depending on the type of unit to which the distinctions or structural characteristics apply. Thus Allen (1973: 46 ff.) makes a further distinction between two types of linguistically significant durational relations: segmental and syllabic. The former he refers to as segmental **length** (of consonants or vowels) and the latter as syllabic **quantity**.

#### Accidental length and structural length

Length, then, is the linguistic application of duration as it is realized in individual segments, but quantity applies to syllables. But it is useful to make a further distinction between two types of phonological length in segments, what I will call **accidental length** (opposed to accidental shortness) (another term might be ‘linguistic duration’ as opposed to ‘absolute duration’) vs **structural length** (opposed to structural shortness). This distinction can be illustrated with reference to the examples in (10.1), as they are commonly transcribed phonetically:

- (10.1) a. *kvistir* [kfɪsˈtɪɾ] ‘branches’  
 b. *skurður* [skʏɾˈðʏɾ] ‘ditch’  
 c. *kvikindi* [kfɪːcɪntɪ] ‘creature’  
 d. *suður* [sʏːðʏɾ] ‘south’  
 e. *stuðull* [stʏːðʏtɪ] ‘support’

In forms like (10.1a) *kvistir* [kfis'tɪɾ] and (10.1b) *skurður* [skʏɾ'ðʏɾ], the traditional transcription indicates that the vowels [ɪ] and [ʏ] are 'short' (not long) in both syllables of each word (i.e. they are not followed by the length-mark ':'). But the 'shortness' (or lack of length) of the first and second vowel of each word is not of one kind: in the initial syllables, the shortness is connected to syllabic structure (since these are closed syllables), whereas in the final syllables it is due to lack of accentuation. In forms like (10.1c) *kvikindi* [kfɪ:cɪntɪ] and (10.1d) *suður* [sʏ:ðʏɾ], the length mark on the vowels represents the fact that vowels in open syllables are normally lengthened under stress. In forms like *kvistir* and *skurður*, neither vowel gets a length mark, the ending vowel because of the lack of accentuation, but in the initial syllable the accent is realized on the following consonant, as indicated by the 'half-length' mark.

The shortness of the vowels in the second syllables in (10.1)—the [-ɪɾ] of *kvistir* and [-ʏɾ] of *skurður*, etc.—is accidental; they do not receive the accent in the word list style represented by the transcriptions. But such non-initial syllables *may* be accented under certain conditions such as emphatic rephrasing of the sort mentioned in section 8.1.3 above and further discussed in section 14.3.1 below, or when they are in focus or get a 'contrastive' accent. Such focusing of normally unstressed syllables is exemplified in utterances like (10.2), where the endings are emphasized in order to make clear the appropriate inflectional form:

- (10.2) *Fleirtalan af kvistur er kvistIR* [kfɪs'tɪ:r], *ekki kvistAR* [kfɪs'ta:r]  
 'The plural of *kvistur* ('branch') is *kvistIR*, not *kvistAR*'

Here the second vowels are lengthened as a consequence of the accentuation of their syllables. The vowels belong to open syllables and are structurally long in our sense. And the same is true of the second syllables of the forms in (10.1 a, b, and d); although accidentally short (having short linguistic duration), they are structurally long open-syllable vowels.

In words like *kvikindi* and *stuðull*, (10.1 c and d), however, the second vowels cannot be lengthened, even under contrastive accentuation. A scenario where such syllables could be accented contrastively is given in (10.3), with the second syllables in focus:

- (10.3) a. *Ég sagði kvikINDI* [kfɪ'cɪn'tɪ], *ekki kvikSYNDI* [kfɪk'sɪn'tɪ]  
 'I said "creature", not "quagmire"'  
 b. *Það sem einu sinni hét stuðILL* [stʏ'ðɪt'ɪ] *heitir nú stuðULL* [stʏ'ðʏt'ɪ]  
 'What was once called *stuðILL* ('alliterating stave') is now called *stuðULL*'

Here the second vowels in *kvikindi* and *stuðull*, belonging to closed syllables, are not lengthened; rather it is the consonant, as shown by the half-length mark.

In spite of the fact that the forms in (10.2) and (10.3) belong in a rather special type of discourse, that is in metalinguistic discussion about the forms themselves, the utterances are phonologically well formed and reveal interesting facts about

phonological structure, namely that not all phonological length or the lack of it, as represented in traditional IPA transcription, is of the same kind.

The accidental length of the segments is thus determined by whether or not they take part in realizing the intonational accent. But it is important to note that although closer to the 'surface' than structural length, accidental length/shortness is not the same thing as actual duration. It is only one of the factors (albeit an important one), which have an effect on the measured duration of segments. Other things like rate of speech and phonetic factors to do with articulation and acoustics may also have an effect on the actual duration.

### Weight and quantity

The distinction between **quantity** or **weight** of syllables (heavy or light) as opposed to the length of segments (long or short) is well established. But again, it is important to note that syllabic quantity is not all of one kind. According to Hayes (1995: 50) all syllables may be grouped into two classes, heavy and light, the former attracting word stress and the latter receiving it only by default, and it is this 'class membership... that determines the syllable's influence on stress'. Thus heavy syllables may 'attract' word stress and have an influence on where it is placed. As we have seen, for Icelandic and Faroese there is little reason to assume a distinction between heavy and light quantity at the lexical level in order to account for the placement of word stress. It is obvious, however, that stress is partly realized suprasegmentally as increased duration in syllabic rhymes, which is to be interpreted so that stressed syllables are in some sense heavy or at least 'heavier' than unstressed ones. To the extent that accentuation creates weight, we have a 'weight-to-stress' system, as it has been called.

The question arises then, how the quantity of syllables should be measured or represented and whether the same tools should be applied throughout. A simple conception, in general, might be to measure the quantity of syllables by the number of segments that they contain, but it is clear that not all segments contribute in the same way to the durational characteristics of syllables. Not only is the onset neutral with respect to quantity, but the contribution of individual segments within the rhyme of the syllable may vary; not all segments are 'prosodically active' to borrow a phrase from Hayes's theory (1995: 52). According to this theory 'the segments that are prosodically active in a particular language are marked as such by assigning them a mora (or two for long vowels).' And the units that represent segmental length are also used to represent quantity of syllables, to distinguish for example between 'heavy' and 'light' ones.<sup>2</sup>

<sup>2</sup> It is clear that, unlike for some larger units, the phonological volume or prosodic activity of segments is not a function of their informational complexity, as is common for constituents in syntax and morphology, or even syllabification. It is thus not the case that a more complex segment (as regards informational content according to most phonological theories) like front rounded [y] is in any sense 'weightier' than a simpler one like [i]. A special type of structuring seems to be at work in the coding of rhythmic or prosodic characteristics of segments. However, although we are dealing with a suprasegmental characteristic, it is realized in segments, or so it seems, since some segments are characterized as moraic or 'long', and others not. This must therefore mean that at some level of phonological structure segments 'have' this prosodic property,

We shall see below that the application of the analytical tools is not unproblematic in our case.

### 10.1.2 Segmental length and syllabic structure

There is an old chicken/egg problem in Modern Icelandic phonology, as to which is ‘distinctive’ or ‘phonemic’, vowel length or consonant length in pairs like *man* [ma:n] ‘young lady’ (disyllabic: *mani* [ma:ni] ‘young lady-DAT’) and *mann* ‘man’ [man:] (disyllabic *manni* [man:i] ‘man-DAT’). These forms have a double contrast, since a ‘long’ vowel is followed by a ‘short’ consonant, and a ‘short’ vowel is followed by a ‘long’ consonant. Forms like \*/man/ or \*/ma:n:/ do not occur, so assuming a distinction in both consonants and vowels is redundant. The question, as it was once posed, was which was basic or underlying (distinct), the vowel length contrast or the consonant length contrast (cf. Benediktsson 1963; Gärnes 1973; Árnason 1980: 14–23; Pind 1986, 1995).

The solution adopted by both Benediktsson (1963) and Árnason (1980: 14–23) was to assume that consonant length, or rather underlying gemination, was the primary distinction, so that a form like *mann* is phonemically /mann/, and that the length of vowels was determined by the length rule, giving a short vowel before two consonants. The motivation for this analysis was that assuming two consonants in *mann*, which in turn govern the shortness of the vowel, follows the same principle as that which governs the shortness of the vowel in *hestur* [hestʏr] ‘horse’ and also in genitival forms like *bíls* [pils] ‘car-GEN’ (with a short vowel), as compared to *bílar* [pi:lar] ‘cars’ (with a long vowel). Thus the consonantal cluster (or geminate) and the vowel shortness in *mann* get a ‘free ride’ on the basis of the shortness of the vowels in *hestur* and *bíls*; the stem syllable of *mann* ‘man’ is closed because of the extra /n/: *mann* /man.n/ and *manni* /man.ni/, and the length rule works smoothly.

But there is good reason to reconsider the case, as we have seen and as argued in Árnason (1998a). We saw in section 9.1.4 that examples can be found in MI where overlong or superheavy syllables are created and vowel length (or type of syllable) seems to be contrastive, as in the minimal pair in (10.4):

- |                                   |                                |
|-----------------------------------|--------------------------------|
| (10.4) Long vowel                 | Short vowel                    |
| <i>mans</i> [ma:ns] ‘girl-GEN’ vs | <i>manns</i> [man:s] ‘man-GEN’ |

Here the genitival form of *man* ‘girl’, which in other case forms, including the nominal case, has a long vowel, [ma:n.s], contrasts with the genitive of *maður* ‘man’, that is [man:s], which in other case forms, such as *mann* [man:] ‘man-ACC’, has a short vowel (and a long consonant). As pointed out in section 9.1.4, the ‘historical’ explanation of this is that the long vowel (and syllabic character) of the nominative *man* [ma:n] and the Dative *mani* [ma:ni] is copied into the genitive by analogical levelling, creating overlength. A similar example, also mentioned in

nowadays most commonly represented by moras or x-slots. But another generally accepted assumption is that segments differ in sonority, which may have prosodic consequences, governing the way in which they are to be syllabified (cf. e.g. Gussmann 2002). Vowels, which constitute the most sonorous set, are typical nuclei, whereas consonants, which are less sonorous, tend to form margins, i.e. onsets or codas.

section 9.1.4, showing ‘output–output correspondence’ (cf. Benua 1995) with the length of one inflectional form copied into another in paradigm levelling, is in the genitive *skips* [sɕi:ps] ‘ship-GEN’, cf. nominative *skip* [sɕi:p] ‘ship’. In the genitive, the length from the nominative form may (or may not) be copied into the genitive.

These examples show not only that the prosodic implications of the length rule are not valid without exception, but they also show that the opposition between structurally long and short vowels or types of syllable (open or closed) can be managed morphophonemically, and that such distinctions are somehow part of the alphabet available for lexical representations. Thus the prosodic character of *skip* [sɕi:p] and *man* [ma:n], whether taken as the length of the vowel or the open syllable structure (cf. below), can be copied into environments where it shouldn’t belong according to a strict application of the length rule.

Further examples showing minimal opposition between long and short vowels, open and closed syllables are shown in (10.5):

- |        |                                       |                                      |
|--------|---------------------------------------|--------------------------------------|
| (10.5) | A                                     | B                                    |
|        | <i>Afríka</i> [a:frika] ‘Africa’ vs   | <i>saffran</i> [saf(:)ran] ‘saffron’ |
|        | <i>febrúar</i> [fɛ:pruwar] ‘February’ | <i>gabbró</i> [kap(:)rou] ‘gabbro’   |

These examples show that the occurrence of long or short vowels is not an automatic consequence of the melodic properties of surrounding consonants, respectively fricative + /r/ and plosive + /r/, or the type of cluster that follows. We can either have long vowels (as in 10.5A) or short vowels (as in 10.4B) before the same sequence of consonants. (It might be suggested that, as in the spelling, the short vowels of *saffran* and *gabbró* are conditioned by following geminates, but this would simply recreate the old chicken/egg problem posed by the pair *man* ‘girl’ and *mann* ‘man-ACC’.)

It was argued in section 3.1 that the lexical phonological level should be seen as the level where the phonological shape of lexical units is defined and that the alphabet used for this representation should at least partly correspond to the phonemic units of the language in the traditional sense. Phonological structure at this level is seen as structure preserving (in the sense of Kiparsky 1985). The fact that the length of the vowel in forms like *skip* [sɕi:p] ‘ship-NOM’ and *man* [ma:n] ‘girl-NOM’ (and the other examples we have seen) can be manipulated morphophonemically can be interpreted to mean that it is ‘preservable structure’ in the sense defined, which in turn means that there is a need for some way of representing it as a part of the phonological word structure on the lexical level.

Still another type of evidence suggesting that an opposition between a long and a short vowel may be manipulated in morphophonemics is to be found in the word formation exemplified in (10.6):

- |        |  |                        |
|--------|--|------------------------|
| (10.6) | Base form                                  | Derived <i>ó</i> -form |
|        | <i>gagnfræðaskóli</i> [kak(n)fraiðaskouli] | <i>gaggó</i> [kak:ou]  |
|        | ‘secondary school’                         |                        |
|        | <i>sígaretta</i> [si:karehta]              | <i>sígó</i> [si:kou]   |
|        | ‘cigarette’                                |                        |

The forms in the second column of (10.6) follow a special word-formation pattern, typical of informal styles or slang. The form of the rule is that the first syllable of the base form is taken as the first syllable of the derivative, which then gets the suffix *-ó*. As can be seen, since only one syllable is allowed as a stem, the deformation is quite drastic, but what we note in particular is that the length relations are preserved, since *gaggó* ‘secondary school-informal’ has a short vowel like the first syllable of the base form, whereas the long vowel of *sígaretta* is copied into the informal variant *sígó* ‘cigarette-informal’. A simple interpretation of this is to see the vowel length opposition as part of the ‘preservable’ structure of the syllables which are prefixed to the word-formational suffix.

To sum up, the examples discussed above show that there is good reason to think that phonological and morphophonemic relations can somehow refer to a ‘phonemic’ distinction between long and short vowels, or alternatively to the type of syllable connected with it; and this in turn has an effect on the surface duration of chunks of speech. The basic conclusion is, then, that the Icelandic system has reached the same stage as the Norwegian and Swedish one, where vowel length is ‘distinctive’ even if the distribution is to some extent predictable and that there is a connection with syllable structure (cf., e.g., Eliasson 1985; Kristoffersen 2000: 155–8).

We have also seen, for example in section 9.2.3, that overlength in Faroese genitival forms like *báts* [pɔɑ:(<sup>h</sup>)ts] ‘boat-GEN’ and *skips* [ʃi:ps] ‘ship-GEN’, where the long vowel is copied from other case forms like *bátur* [pɔɑ:(<sup>h</sup>)tʊɹ] ‘boat-NOM’ and *skip* [ʃi:p] ‘ship-NOM’, testifies to the same thing. (Adding the genitival *-s* should create a shortening environment, giving something like \*[pɔts] for *báts* and \*[ʃɪps] for *skips*, but the length and/or syllable type is preserved.)

### 10.1.3 Length in postlexical accentuation

Turning now to the postlexical aspect of length and duration, let us look at the Icelandic examples in (10.7), showing the interplay between lexical structure and intonational conditions (the intonational patterns will be discussed in section 15.2):

- (10.7) H\* L- L%
- a. *Þeir fara á HESTUM*  
 [θeirfarau'hɛs'tym]  
 ‘They go on HORSEBACK’
- H\* L- L%
- b. *Þeir FARA á hestum*  
 [θeir'fa:rauhestym]  
 ‘They GO on horseback’

In (10.7a) the strongest stress or nuclear accent is on the word *hestum* ‘horses-DAT’, causing lengthening of the coda consonant, but in (10.7b) the focal accent is on the verb *fara* ‘go-3.PL’, and the vowel is lengthened, as indicated by the length mark. Measurements of a sample utterance (speaker KÁ) corresponding to (10.7a) show the



duration of the vowel in unaccented *fara* to be about 100 ms, whereas the [ε] in accented *hestur* is about 70 ms; the ‘half long’ [s'] in *hestur* is measured as 197 ms. In an utterance corresponding to (10.7b) produced in the same style, the duration of long [a:] measures 208 ms, the short [ε] in *hestur* 94 ms, and the half long [s'] is 149 ms.

So, applying the distinction made above, the accidental length (linguistic duration), as indicated by the length marks of the vowel /a/ in *fara* and the /s/ in *hestur* varies according to the accent; in terms of actual duration, the first /a/ of *fara* in an utterance corresponding to (10.7b) is about twice as long as the relatively weak one in (10.7a), and the ‘half long’ [s'] in (10.7a) is 197 ms when stressed, whereas the relatively weaker variant in (10.7b) is considerably shorter: 149 ms. In fact, comparing the two utterances, the most durationally stable segment is the structurally short vowel in *hestur*; it is not lengthened under stress, in fact in the sample utterances the stressed vowel in (10.7a) is shorter in duration (70 ms) than the unstressed one in (10.7b), which is 94 ms. The crucial difference between the ‘long’ and ‘short’ vowels is thus that the duration of the open syllable vowel in *fara* varies according to stress whereas the closed syllable vowel in *hestur* does not, or to a lesser extent. This might be taken as a sign that the short vowel is ‘prosodically inactive’ in some sense. Another interesting fact to be noted is that the ‘long’ vowel in *fara* is not always ‘long’, since when unstressed, it is not significantly longer than the ‘short’ vowel in *hestur*.

For further illustration, the following observations may be reported. Speaker KÁ produced the following sentences with ‘double focus’ on the subject and object nouns, but none on the verbs. Thus the weakest stresses in these utterances are clearly on the verbal forms *festi*, *litar*, *bindur*, and *passar*:

- (10.8) a. JÓN *festi* HESTINN  
           ‘JOHN fastened the HORSE’  
       b. JÓN *litar* VITANN  
           ‘JOHN colours the LIGHTHOUSE’  
       c. ÞÓR *bindur* VINDINN  
           ‘THOR ties the WIND’  
       d. JÓN *passar* PASSANN  
           ‘JOHN looks after the PASSPORT’

These examples are constructed so that the same rhyme is repeated in each utterance, first in the weak verbal form, and then in the strong nominal form (...*festi hestinn*; ...*litar vitann*; ...*bindur vindinn*; ...*passar passann*). The fact that the tokens compared are in each case within the same utterance ensures that the same speech tempo applies, since it would seem unlikely that a change of tempo should occur in the middle of an utterance. The linguistic feature responsible for the durational differences in the verbal forms and the final nominal forms is thus sentence stress. The results of the measurements are shown in Figures 10.1–10.4.

As can be seen from Figures 10.1–10.4, the durational effects of accentuation of the nominal forms relative to the verbal forms has an effect mainly on the duration of the coda consonants in forms like *hestinn*, *passa*, and *vindinn*, but on the open syllable

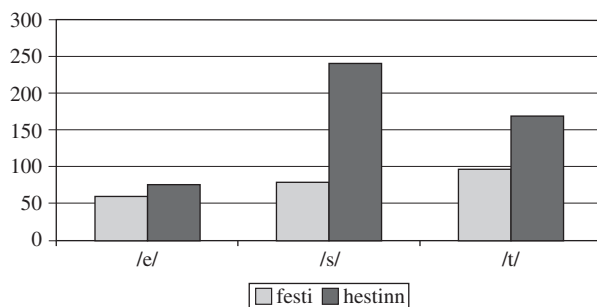


FIGURE 10.1 Durational differences (ms) in segments in the sequence /est/ according to intonational strength in the utterance: *JÓN festi HESTINN*, with focus on the noun *hestinn* ‘the horse’, but none on the verb *festi* ‘fastened’. The most stable segment is the short vowel.

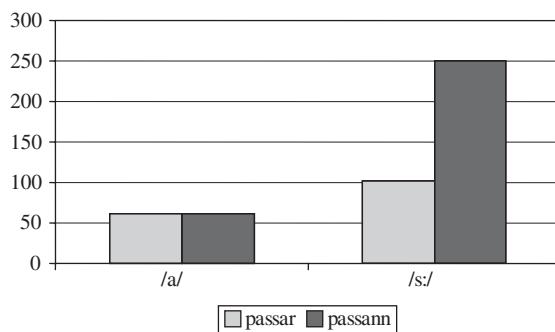


FIGURE 10.2 Durational differences in the segments /-ass-/ according to intonational strength in the utterance *JÓN passar PASSANN* with focus on the noun *passann* ‘the passport’, but none on the verb *passa* ‘look after’. The durational difference appears solely on the consonant, whereas the short vowel remains stable in duration.

vowel in *vitann*. The only segments that remain relatively stable between the stressed and the unstressed forms are, as already emphasized, the short vowels. So, the only durational characteristic which remains relatively unaffected by postlexical accentuation is the shortness of the structurally short vowels in closed syllables, whereas the structural length of the open syllable vowels does not have to be realized.

The characteristics of postvocalic consonants (both in coda and the following onset) are also less stable than that of the short vowel. Thus, for example, both the [n] and the [t] in *vindinn* ‘the wind’ in Figure 10.3 are lengthened under stress, so that their durational characteristics can be assumed to be predictable on the basis of vowel shortness or syllabification, in combination with postlexical factors. And, interestingly, the same applies to the structurally long open syllable vowels, since they vary greatly in actual duration. Thus the ‘long’ vowel in (unstressed) *litar* in Figure 10.4 is in fact shorter (81 ms) than the ‘short’ vowel in (stressed) *vindinn* in Figure 10.3 (84 ms).

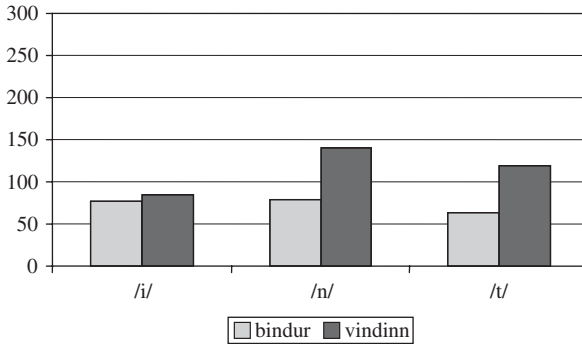


FIGURE 10.3 Durational differences in the segments /-Int-/, according to intonational strength in the utterance *PÓR bindur VINDINN* with focus on the noun *vindinn* ‘the wind’, but none on the verb *bindur* ‘binds’. The durational difference is realized on the consonants following the short vowel, which itself remains stable in duration.

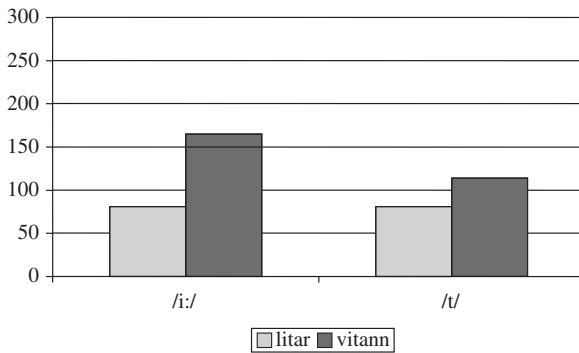


FIGURE 10.4 Durational differences in the segments /i:/ (‘long’ V + cons) according to intonational strength in the utterance *JÓN litar VITANN* with focus on the noun *vitann* ‘the lighthouse’, but none on the verb *litar* ‘colours’. The durational difference is realized mainly in the vowel.

The upshot is that the rhythmic input of the short vowel is predetermined (probably relative to the rate of speech), whereas that of other segments varies according to intonation and sentence stress. Another way of expressing this is to say that in Modern Icelandic the short vowels are prosodically the least active segments, in that they do not respond to accentuation in the same way as the ‘long’ vowels, and the consonants which follow the short vowels within the rhyme.

As already mentioned in section 9.2.3, it seems that similar conditions prevail in closed syllables in Faroese. Therefore, comparing the durational differences of the vowel and coda consonant in the form *Hestur* ‘horse, a name of an island’ in different utterance types like the ones in (10.9) suggests that the length of the vowel is more stable than that of the coda consonant in Modern Faroese:

- (10.9) a. *Hann býr í HESTI* [hɛs:ti]  
           ‘He lives on (the island) HESTUR’  
       b. *Hestur* [hɛstʊɹ] *er ein LÍTIL* *bygd*  
           ‘(The island) Hestur is a SMALL community’

In (10.9a) the word *Hestur* takes the nuclear accent, whereas in (10.9b), the same word is in a weaker position. Phonetic measurements reported in Schäfer and Árnason (2009) show that the average duration of the vowel /ɛ/ in *hestur* (about 66 ms) in eighteen utterances corresponding to (10.9a) is not greater (in fact it is smaller in absolute terms) than for the form *Hestur* in the same number of utterances of the type shown in (10.9b) (about 76 ms on average.). Conversely, the average duration of the coda consonant /s/ is about 148 ms in utterances corresponding to (10.9a), which is considerably greater than for those corresponding to (10.9b) (about 113 ms).<sup>3</sup>

#### 10.1.4 Representing length and quantity

We see, then, that in MI and MF a short vowel in a closed syllable is durationally more stable than a corresponding long one. The short vowels are reluctant to be stretched in the output, whereas the ‘long’ vowels in open syllables are more flexible.

Thus, given the general melodic character of vowels, and if special prosodic characteristics of vowels should be assigned to them as segments, the character of the short vowels is the special case. And since there seems to be general agreement that phonological representation (as well as other linguistic representation) aims for some sort of iconicity, so that marked or special units (like front rounded vowels or voiceless sonorants) tend to be more specified relative to unmarked entities (like unrounded vowels and voiced sonorants), it would seem (again assuming that segments as such have some prosodic characteristics) that the short vowels of Icelandic and Faroese should be marked, that is carry more information than the long ones. The more ‘natural’ long (or non-short) vowels should be less specified or unmarked. It is not clear, however, what sort of ‘information’ we would be talking about, and how it should be represented. Keeping this in mind we will make a survey of the tools that have been used to represent length and quantity, particularly that of vowels, in phonological models.

#### Tenseness

One way of dealing with phonological length in vowels is to relate it to other articulatory characteristics with the help of the feature *tense-lax*. Hammond (1999: 5–6), for example, lists ‘tenseness or vowel length’ (my italics) among the ‘basic descriptors’ for English vowels and he argues that ‘there is good reason to characterize the difference between tense and lax vowels of English as basically that between

<sup>3</sup> The ratio between the length of the vowel and the consonant (the V/C ratio) in *hestur* in (10.9a) is thus 66 to 148 (about 0.4), which is considerably lower than the V/C ratio for (10.9b), which is 76 : 114 (about 0.7). The results were not tested statistically, and a more systematic investigation is needed before definite conclusions can be drawn. According to Pind (1986, 1995) this type of ratio determines speakers’ judgments of differences between syllable types.

long and short vowels.’ According to Ladefoged and Maddieson (1996: 298–322), the phonetic correlates of tenseness are of several kinds, length being one of the various phonetic consequences that have been attributed to tenseness of vowels. Perhaps we should classify the short vowels in Icelandic as lax?

However, the tenseness correlation seems to be very elusive indeed and to have been interpreted as having different phonetic consequences in different languages, for example English, German, Igbo, and Akan. In Ladefoged and Maddieson’s words: ‘there is no common setting for the tongue root for the so-called lax vowels that distinguishes them from the so-called tense vowels’ (1996: 304). However, one characteristic seems to be incompatible with laxness of vowels: lax vowels are never diphthongal. And since Icelandic and Faroese have short diphthongs, it seems safe to discard the tense–lax feature as a possible candidate for representing the Icelandic length correlation. (For recent arguments against the use of tenseness as a phonological feature, see Durand 2005.)

### Skeletal and moraic representation

Another convention for representing length in phonology is, as noted, by means of counting or gemination in one sense or other, which means looking at a long segment as a sequence of two short or normal ones or taking up two positions in a string. This is the principle behind autosegmental phonology, which uses x-slots to represent timing on the skeletal tier. Such x-slots are also used in many analyses in terms of government phonology (cf. e.g. Gussmann 2002; Harris 1994). According to this convention, each normal (or short) segment has one slot on a timing tier, but long segments have two slots. A similar idea lies behind moraic theory, which takes long vowels to be supplied with two moras, but short vowels normally have only one mora. Moraic theory differs from x-slot theory in that only ‘prosodically active’ units have moras.

In moraic (and x-slot) notations moras (and x’s) have a double function. On one hand they define prosodic characteristics of vowels (and sometimes consonants) as units or root nodes in the input or lexical structure. For example, according to Hammond (1999: 137), lax vowels have only one mora as part of their segmental characteristics, whereas tense vowels have two moras, and diphthongs may even have three. On the other hand, moras also represent ‘units of quantity for syllables’ and, in some sense at least, measure time in higher constituents such as syllables or parts of syllables. Thus segments both ‘have’ moras as part of their basic (lexical?) constitution, and they may also be ‘assigned’ moras as parts of syllables, for example in connection with stress assignment (Hammond 1999: 139 ff.). This is the Stress-to-Weight principle commonly referred to in the literature. In this scenario moras in phonological representation can either be ‘input moras’, which are then projected to surface, or ‘output moras’, which have been added in the derivation or input–output mapping.

Applying this to our data we could assume that the stressed syllables in *fara* [fa:ra] in (10.7b) and *hestur* [hestʏr] in (10.7a) have two moras by Stress-to-Weight. Let us say that the long vowel in [fa:ra] is bimoraic, and that the [s] in *hestur* supplies an

extra mora after the monomoraic short vowel. This accounts easily for the length of the vowel in [fa:ra] and the lack of it in [hɛs'tʏɾ]. But we have seen that, in some sense at least, the vowel in *fara* is short (or not long?), that is when not stressed. If length as a property of vowels is bimoraicness, some sort of deletion of a mora (or constraint against its appearance) is needed when it is unstressed and short (or not long), so further measures are called for.<sup>4</sup> This also does not tell us anything about the half-length. Should we perhaps give the [s] in *hestur* an additional half or full mora when it is lengthened, as in [hɛs'tʏɾ] or [hɛs:tʏɾ]?

Another possibility might be to assume that the extra mora in *fara* is supplied by Stress-to-Weight (postlexically, in our terms) to a monomoraic input. But then we of course have to account for the fact that the vowel in *hestur* is not lengthened or given a mora under the same conditions. The obvious, and traditional, answer is that this is due to syllabification, that is the *s* following the vowel closes the syllable. And a vowel in a closed syllable is not lengthened.

But the problem is, as we have seen, that principles of syllabification do not, either in Icelandic or in Faroese, account for all distinctions, as shown by the occurrence of overlength in MF *báts* [pɔɑ:ts] 'boat-GEN' and minimal pairs such as MI *mans* [ma:ns] 'young lady' and *manns* [mans], 'man', and the MI genitive variants *ski:ps* [sci:ps], *skips* [scips] 'ships'. We might assume that the difference lies in the syllabic characteristics of the following consonants, for example the nasals in the pair *mans* vs *manns*. That is to say that the /n/ in *ma:ns* has different syllabic characteristics from those of the /n/ in *manns*, the latter being, for example, a geminate. And a similar solution might be proposed to account for the opposition between the pairs shown in (10.5): *Afríka* 'Africa' vs *saffran* 'saffron'.<sup>5</sup> But this is once more our chicken/egg problem, since we seem to have projected a distinction in vowels onto a consonantal one.

### Syllable cut

Finally, let us consider the possibility of characterizing the difference between long and short vowels in terms of some sort of prosody or an opposition between syllable cut (*Silbenschnitt*). A close connection between length and syllabification is built into this correlation, originally proposed by Sievers and Trubetzkoy, and more recently

<sup>4</sup> One such means would be a constraint of the sort proposed by Gussenhoven (2000: 4–5), which is meant to secure that in Dutch "long" vowels are in fact short in weak positions'. This constraint, which Gussenhoven calls SYLMON, demands that syllables are monomoraic. It is outranked by the STRESS-TO-WEIGHT PRINCIPLE, which demands that 'Foot heads [i.e. stressed syllables, KÁ] are (minimally) bimoraic'. Thus stressed syllables have at least two moras whereas unstressed ones have only one. These constraints seem to apply on the level of word phonology, and it is not clear to what extent they could be applied to the intonational relations that we are dealing with here.

<sup>5</sup> A suggestion in this vein made by Gussmann (2002: 187–93) is to look on /s/ in Icelandic as a 'double agent', which sometimes syllabifies as an onset (giving a long vowel) in the compound *hau.slaus* 'headless' and sometimes as a coda, giving the non-compound *veis.la* 'feast'. This certainly assigns the syllabic characteristics to the consonantal surroundings, but the question is what independent justification there might be for the dichotomy. The proliferation of 'double agents' that would be needed to account for pairs like the ones in example (10.4): *ma:ns* vs *manns*, *febrúar* vs *gabbró*, etc. seems dubious.

endorsed by Vennemann (1991, 2000) and Murray (2000, see also Spiekerman 2000 and Jessen 2002). Vennemann proposes using a 'prosody'<sup>6</sup> of syllable cuts for Standard German to distinguish between forms like *Beet* '(flower) bed' with smooth syllable cut and *Bett* '(sleeping) bed' with an abrupt cut. The prosody may have an effect on both syllabification and the length or tenseness/laxness of the vowels. Thus the vowel in *Beet* is long, and the vowel in *Bett* is short and/or lax.

The relation between syllable cuts and vowel length is further investigated by Murray (2000), who argues that spelling regularities in the Middle English *Ormulum* show that Orm's dialect (late twelfth-century Midlands) had a prosodic correlation of syllable cuts. But Murray also maintains that vowel length (or shortness?) had an independent (if indirect) effect in metre, thus short (lax) vowels seemingly occur in Orm's dialect without abrupt cut. If this is true, the correlation of vowel length cannot universally be reduced to a prosody of syllable cuts, so an independent distinction between short and long vowels is still needed.

Coming back to Icelandic, if the length (or shortness) of vowels is a direct function of syllable cut, so that smooth cut implies long vowels, and the abrupt cut implies short vowels, this should mean that we have a smooth cut in the long vowel form [fa:ra] in (10.7b), but an abrupt one in *hestur*. But since *fara* has a shorter vowel in (10.7a), we either have to say that the short vowel of *fara* in (10.7a) is due to an abrupt cut or that in some sense vowel length or shortness is not directly correlated to syllable cuts.

#### Vowel shortness as a prosodic deficiency

The survey above seems to show that none of the tools tested can really provide us with a neat account of the facts about length and quantity in Icelandic and Faroese and the corresponding systemic differences in the quality and melodic characteristics of the long and short vowels. The essence of the problem is how to interpret the relation between the template structure of syllables or suprasegmental constituents and the melodic and/or prosodic properties of the vowels as segments or units in the system.

The short vowels have been shown to be in some sense prosodically inactive or less active than long vowels or indeed following consonants, since they are less sensitive to the effects of postlexical accentuation and rhythmic conditions. But although they do not take part in the actual realization of output accents in the same way as the 'long' vowels or coda consonants, it cannot be said that they are totally 'inactive' prosodically. In fact, as syllabic nuclei or sonority peaks they are essential parts of the rhythmic build-up of utterances. But as such, the syllabicity of vowels can be directly related to their melodic character without any special prosodic marking in terms of moras or other characteristics. In general the phonological characteristics of vowel melodies make them acoustically and articulatorily well suited to being lengthened or stretched. (Having no stopness (corresponding to the element ?) or frication

<sup>6</sup> I understand 'prosody' to mean a property that does not belong to a segment, but to a larger unit, such as a rhyme or a syllable.

(corresponding to the element *h*), they are, as vowels, among the most sonorous elements, forming natural places for syllabic nuclei.) It is therefore clear that the character of the short vowels, of not being natural recipients of accentual lengthening, makes them the special case.

The problem which we face is how to relate the segmental or melodic characteristics to the prosodic ones. But this is a more general problem, since it is well known that different types of segments have different characteristics which can influence the way they are syllabified. And there must be some way of referring to the correlation between melodic tier and the syllabic tiers, that is the syllabic positions and the suitability of different types of sound for filling these template positions. And it is well known that there is a general relation between melodic characteristics such as the sonority of segments and their suitability as fillers of different syllabic positions: as onsets, nuclei, or codas. In the framework of Optimality Theory, this correspondence between sonority scales and syllabic characteristics is referred to as ‘Harmonic Alignment’ (see e.g. Gouskova 2004 for the application of this theory to data from Icelandic and Faroese).

A harmonic scale of this type is shown in (10.10) for onset (Gouskova 2004: 208):

(10.10) Ons/t » Ons/s » Ons/d » ... » Ons/w

An onset with a voiceless plosive (Ons/t) is more harmonic than an onset consisting of a glide (Ons/w), with some intervening values on the scale. In a similar manner a mora filled by a glide ( $\mu$ /w) is better than one filled by an obstruent ( $\mu$ /t), as shown in (10.11):

(10.11)  $\mu$ /w »  $\mu$ /r »  $\mu$ /l » ... »  $\mu$ /t

Relating to this, the following scale has been set up for the Icelandic consonant system (cf. Árnason 2005a: 165, 215), where the sonority of consonantal segments is mapped against their ‘strength’, the latter referring to the prosodic or syllabic characteristics of the segments:

(10.12)	Strong			Weak
	Non-sonorous			Sonorous
	←			
	Stops	Voiceless fricatives	Voiced fricatives	Sonorants
	p, t, k / b, d, g    s	f, θ, x	ð, ɣ (v, j)	l, m, n v, j, r <sup>7</sup>

A ‘strong’ segment is seen to be more likely to occur at the margins (basically onsets) of syllables, whereas the weak ones tend to occur close to the nucleus. This relates

<sup>7</sup> As can be seen, /v/ and /j/ are listed twice on the scale, once among voiced fricatives and again among the sonorants. This reflects the fact discussed in section 6.3 and again in section 9.3.3 that the voiced fricatives are somewhat ambivalent, as to whether they should be classified as fricatives or glides. The scale represents a very rough classification of the Icelandic consonant system. Icelandic obstruents may be classified into fricatives (f, θ, x) and stops, and the stops again into ‘soft’ stops (b, d, g) and ‘hard’ stops



directly to syllabification and the length rule, so that the ‘strong’ consonants /p, t, k s/ can form complex onsets in combination with the ‘weak’ *v, j, r*, giving open syllables in forms like *ne.pja* [neɛ:pja] ‘cold weather’, *vö.kva* [vøæ:kva] ‘to water’, *ti.tra* [tʰi:tra] ‘to shiver’, and *tvi.svar* [tʰvi:svaɹ] ‘twice’, etc. In other forms the postvocalic consonants do not have enough ‘strength’ to form onsets over the following consonants, so that the initial syllables of, for example *bið.ja* ‘to ask’, *hes.tur*, ‘horse’, *vin.da* ‘wind’, *van.ta* ‘need’, etc. are closed, and accordingly have short vowels. It is thus clear that both the harmonic scales (10.10) and (10.11) and the hierarchy in (10.12) assume that segments have melodic properties, which have prosodic ‘consequences’.

Although the concept of sonority (and the related scale of strength) is perhaps not too clearly defined, and there may be some problems with representing it, it is generally taken to be a useful tool for describing the different syllabic preferences and restrictions of different segments (see e.g. Blevins 1995: 210–12; Zec 2007: 177–92). One problem in this context is the aberrant behaviour of /s/, which is the most likely segment to occur at the beginning of onsets, even though it should be in some sense more sonorous than, for example, voiceless plosives like /p, t, k/. But it may be noted in this context that in the analysis shown in section 6.5 for Icelandic and in section 7.5 for Faroese the /s/ sounds, measured by the number of tokens used in the representation and having roughly the characterization {I, A, h, H}, are at least equal in complexity to the stops, which are {U, h, ʔ} for the lenis plosive /p/ and {U, ʔ, h, H} for the fortis one /pʰ/.

Given that segments differ in their suitability to form parts of syllables it would seem that the facts of Modern Icelandic presented above, and in particular of Modern Faroese, show that different types of vowel segments vary in ‘strength’ or suitability to fill different positions in the syllabic template; it was shown in Table 8.1 in section 8.2 on p.136 that there is a gradience in the freedom of choice regarding vocalic melodies in the three different types of environments in Faroese. The choices for the open syllables are more varied than for the closed syllables, and conversely we can say that the short vowels are defective as recipients of the accent, since in order for full rhymes or stress matrices to be formed, a consonant is needed as a coda. Given some way of characterizing the prosodic traits of the different types of vowels, we could then say that a stress matrix or rhyme consisting of a long or normal vowel (V) is more harmonic than one filled by a short vowel (V̆):

(10.13) Stress/V » Stress/V̆ » Stress/w » ... Stress/t

The common feature or characteristic of the members of the short system is therefore their reluctance to form open syllables, and conversely a full rhyme or stress matrix cannot be formed with a short vowel.

It is possible to think of more than one way of accounting for this rhythmic deficiency in vowels. One way might be to look for something in the melodic

(p, t, k). Both ‘hard’ and ‘soft’ stops are voiceless, but the hard stops can be characterized as having (pre- or post-) aspiration.

character of the segments, and another might be to assume that segments as such can have prosodic characteristics assigned to them in the input, e.g. so that moras are assigned to prosodically active segments, as we have seen. In view of this, instead of marking those vowels which are prosodically active as having two moras, one way of characterizing the prosodic inactivity of the short vowels might be to turn things around, and mark the prosodic deficiency of the short vowels as lack of ‘moraicness’. Thus the short vowels might be assigned some prosodic feature like ‘\*μ’ or lack of mora, which would mean that when it comes to mapping them against postlexical accentuation they simply ‘refuse’ to take part in the realization of the accent.

One potential argument against this is that prosodic information should not be mixed with melodic structure in segments. But this is a criticism which can equally well be directed against representations by which long vowels are seen as bimoraic by nature, so that their phonemic length has a surface effect. We will leave this issue aside here and simply adopt the diacritic ‘~’ to characterize short vowels, as was done in (10.13).<sup>8</sup> This is to be interpreted so that the stigmatization of the short vowel is the only correlate of open or closed syllabification (or syllable cut) in the lexical input representation of an Icelandic word, in other words we do not want to assume that syllabification is ‘phonemic’.

The effect of the stigma is, then, that a short vowel cannot stand in an open syllable and, in the case of monosyllabic stress, needs a coda for the stress to be realized. Thus the lexical form of MI *man* ‘young woman’ is /man/, syllabified as [ma:.n], with an open syllable and a final onset, but the short vowel form *mann* ‘man’ is represented as /männ/; when stress is realized, the nasal is incorporated into the rhyme, and when no other onset is supplied for a following syllable, the nasal also fills that onset position, in other words a phonetic geminate is formed: [man.n]. The genitival forms *mans* and *manns* are then characterized as /mans/ and /mäns/ respectively, as shown in (10.14):

- (10.14) a. *man* /man/ [ma:.n] ‘young woman’  
 b. *mans* /mans/ [ma:.n.s] ‘young woman-GEN’  
 c. *mann* /männ/ [man:] ([man.n]) ‘man’  
 d. *manni* /mäni/ [man:i] ([man.ni]) ‘man-DAT’  
 e. *manns* /mäns/ [man:s] ([man.s]) ‘man-GEN’

In the overlong form *mans* [ma:.n.s] ‘young woman-GEN’, the vowel is long (filling the stress matrix), which means that the syllable is open and the two consonants [.n.s] remain outside the rhyme, in other words, they are extrasyllabic or form ‘dull syllables’ (in the sense of Harris and Gussmann 2002).

<sup>8</sup> There are several other notational practices that can be thought of. One way of representing the prosodic character of short vowels might be to say that they have an ‘empty slot’, which could be filled by a following segment: /a\_/, etc. Another way is to think of vowels in general as consisting of onsets and offsets (beginnings and ends). A short or ‘incomplete’ vowel would then be one which has an onset but no offset, which means that something must follow, either a coda consonant as in Icelandic and Faroese, or a syllable as in English.

*Excursus: A brief comparison with Finland Swedish*

Finland Swedish can be mentioned in this context by way of comparison. This variety of Swedish, which in turn has several subdialects, has a clear phonemic distinction between long and short vowels, as shown by Ivars (1996). But as in Icelandic, the length of 'long' vowels is only realized under (intonational) stress (Stress-to-Weight, Finland Swedish is also like Icelandic in having initial word stress). The adverbial *där* 'there' for example has, according to Ivars, the stressed form /dä:r/, and /där/ as an unstressed form. We can interpret this so that the form has a vowel, which is long, or rather non-short, in the sense that it may be lengthened under stress (Stress-to-Weight). On the other hand the pronominal *däm* 'them' has, according to Ivars, the stressed variant /dämm/ and the unstressed variant /däm/ (1996: 39). This shows that *däm* has a phonemically short vowel, which may not be lengthened under stress, in which case the consonant takes the lengthening. Finland Swedish is thus like Icelandic (and most other Swedish and Norwegian dialects) in distinguishing phonemically between long and short vowels, and the short vowels may not be lengthened under stress.

The shortness correlation basically cuts across the vowel system, but as in Faroese, many Finland Swedish dialects have a smaller inventory of vowel melodies in the short system than in the long one. But a feature that most clearly distinguishes Finland Swedish from Icelandic and Faroese is that the former also has the so-called *kortstavighet* 'syllable shortness', that is initial stressed syllables, which lengthen neither the consonant nor the vowel under stress. The *kortstavighet* occurs in polysyllabic words like *kamera* 'camera', *relativ* 'relative', *före* 'for', and *över* 'over' (Ivars 1996: 35 ff.), and although this is a conservative trait, it shows up in loanwords, as can be seen. The *kortstavighet* can be characterized in terms of a disyllabic stress matrix (or moraic trochee), as in English and German. The effect is that neither the vowel nor the consonant is lengthened under stress, but the two syllables join in carrying the stress: (*kame*)ra, (*rela*)tiv. Thus Finland Swedish has phonemic shortness of vowels and Stress-to-Weight, but disyllabic stress is allowed, giving instances of short stressed syllables.

But there is considerable dialect variation, and according to Kiparsky (2008) the differences between the Fenno-Swedish dialects can be accounted for in terms of OT by differences in the ranking of constraints like CONSONANT EXTRAMETRICALITY (making word final consonants extrametrical), FOOT BINARITY (a requirement that all feet have at least two moras), STRESS-TO-WEIGHT (making stressed syllables heavy), and DEP-V<sub>μ</sub> (demanding that an output mora should be in the input). Thus for those dialects which have *kortstavighet*, the STRESS-TO-WEIGHT constraint is ranked low, and DEP-V<sub>μ</sub> is ranked high, allowing light syllables to surface, whereas the interplay of FOOT BINARITY and CONSONANT EXTRAMETRICALITY determines whether vowel lengthening takes place in monosyllables.

There are therefore differences from Icelandic and Faroese, but the fact that there are different melodic inventories in the short and the long vowel systems and the fact that in OT terms the constraint DEP-V<sub>μ</sub> may be highly ranked, allowing vowel

shortness to have a surface effect, shows a clear similarity. This can, in our terms, be interpreted as showing that vowel shortness is ‘preservable’ as a structural property.<sup>9</sup>

## 10.2 THE LENGTH RULE ON LEXICAL AND PHONOLOGICAL LEVELS IN ICELANDIC

### 10.2.1 *Length and syllabification*

One possible objection to the conclusion reached in section 10.1, assuming a sort of ‘phonemic’ distinction between two classes of vowels for Icelandic and Faroese, is that the distribution of such independent units should be free, and that minimal pairs like *mans* [ma:ns] ‘young lady-GEN’ vs *manns* [mǎn.s] ‘man-GEN’ should proliferate based on the opposition between long and short vowels. Although we have seen cases (pairs like *Afríka* [a:frika] ‘Africa’ and *saffran* [sǎf.ran] ‘saffron’), such pairs are relatively rare.

But there are obvious historical reasons for this, and more importantly the distribution is limited by phonotactics, since short vowels may not appear without consonantal codas. And this, together with the fact that shortness is the marked character, is probably the reason why most of the ‘exceptions’ going against the old length rule, both in Icelandic and Faroese, involve overlength, based on the occurrence of the unmarked long vowels in ‘short’ environments, that is before consonant clusters which call for a short vocalism according to the ideal form of the rule. So, it is still the case that the distribution of long and short vowels is to some extent governed by rule; the old length rule is still valid in the majority of cases.

In a recent account in terms of Optimality Theory, Gouskova (2004, see also Ingason 2008: 41–8, Vennemann 1988) suggests that Sonority Sequencing and a scale of markedness in syllable contact, measuring the jump in sonority between the (potential) coda and the (potential) onset of the following syllable, can account for syllabification in both Icelandic and Faroese. Sonority differences in syllabic interludes are controlled by a set of constraints, which measure the sonority jump between codas and following onsets on a scale from –7 to +7, so for example an interlude like *ð.r* in *blaðra* ‘balloon’ has the score +3 (meaning that the sonority rise is three degrees above the level of equal sonority between coda and onset). A constraint like \*DIST+4 (which bans a sonority jump amounting to more than 4) is violated by any syllabic interlude where the first member is, for example, a stop like /p/ and the second one a sonorant like /r/, and consequently interludes containing such sequences may be syllabified as onsets to following syllables. On this scale a syllabification like

<sup>9</sup> There are additional complications in the quantity system of Finland Swedish caused by the lexicalization of length distinctions in consonants, which among other things has the effect that there are dialects which have a four-way distinction in monosyllables between a short vowel followed by a single or double consonant CVC: [led] ‘gate’, [redd] ‘afraid’, and a long vowel followed by a single or double consonant: [le:d] ‘shipping channel’, [beedd] ‘asked’ (see Kiparsky 2008 for an analysis of these data in terms of Stratal OT).

*nep.ja* and *tvis.var* would be more marked than *ne.pja* and *tvi.svar*, on the grounds that a ‘sonority jump’ from an obstruent to a voiced fricative or sonorant at a syllable boundary is worse than at an onset, which also fits constraints on the sequence of consonants on a sonority scale (SONORITY SEQUENCING).

These principles regarding syllabification interact with a number of constraints regarding length and quantity. These constraints assumed are listed in (10.15) (Gouskova 2004: 217; Ingason 2008: 37):

- (10.15) a. STRESS-TO-WEIGHT  
           Stressed syllables are heavy  
       b. NO LONG V  
           A vowel must not be associated with two moras  
       c. IDENT[length]  
           The length specifications in the input match the length specifications in the output

Examples showing the relation between the constraints are shown in (10.16) for *efla* [ɛpla] ‘to strengthen’ and in (10.17) for the first syllable of *sebrahestur* [sɛ:prahestʏr] ‘zebra’. In the first case the sonority jump is between /p/ and /l/, which amounts to +5 on the syllable contact scale, but in the latter, it is between /p/ and /t/, amounting to +6 on the same scale.

(10.16)

ɛ:pla	STRESS-TO-WEIGHT	NO LONG V	*DIST+5	IDENT[LENGTH]
a. <del>ɛ</del> ɛp.la			*	*
b. ɛ: .pla		*!		
c. ɛ .pla	*!			

Here the candidate (b) is excluded by the ranking of NO LONG V above \*DIST+5, so that a long vowel in an open syllable is not allowed, and candidate (c) is banned by STRESS-TO-WEIGHT.

In (10.17) we see that NO LONG V is ranked below \*DIST+6, the constraint against a sonority jump of more than 6, allowing STRESS-TO-WEIGHT to lengthen the vowel, making candidate (a) the optimal one. Candidate (b) is excluded by \*DIST+6, banning syllable contacts with a jump higher than 6, and candidate (c) which has a light stressed syllable is excluded by STRESS-TO-WEIGHT.

(10.17)

sepra-	STRESS-TO-WEIGHT	*DIST+7	*DIST+6	NO LONG V	*DIST+5	IDENT [LENGTH]
a. <del>se</del> sɛ: .pra				*	*	*
b. sep.ra			*!			
c. se.pra	*!					

The crucial point in this analysis is that the constraint NO LONG V (which like DEP-V<sub>μ</sub> militates against vowel lengthening) is ranked below STRESS-TO-WEIGHT and placed between two different constraints regarding syllable contact, \*DIST+6 and

\*DIST+5. It is obvious that the constraints which militate against vowel lengthening are somehow related to our conception of vowel shortness, but it remains to be seen what the ultimate form of these OT constraints should be and how they can be applied to capture the characteristics described here.

### 10.2.2 Two versions of the rule

We saw above that syllabification, as a function of different strength or syllabic characteristics of consonants, has been connected with the long noted regularity that vowels are long (in open syllables) before plosives and *s + v, j, r*, as in *nepja* [nɛɛ:pja] 'cold weather' and *tvisvar* [t<sup>h</sup>vi:svar] 'twice'. But an interesting fact noted by Gussmann (1985a) is that different constraints apply on different morphosyntactic levels. There is a difference in syllabification between simplex words, inflectional forms, and some derived forms on the one hand, and compounds and some derivatives on the other (cf. Árnason 1998a).

To illustrate this, the forms in (10.18) (all underived) follow the original version of the rule and have short vowels before two or more consonants, except *s* or stop followed by *v, j, r*:

- (10.18) a. *fríðs* [friðs] 'pretty-GEN.SG'  
           *hestur* [hɛstyɾ] 'horse'  
           *hundur* [hyntyɾ] 'a dog'  
           *sats* [sats] 'galley' (in printing)  
           *ætla* [aihtla] 'to intend'  
           *vitsins* [vitsins] 'the wisdom-GEN'  
           *lax* [laxs] 'salmon'  
           *veisla* [veistla] 'party'
- b. *ne.pja* [nɛɛ:pja] 'cold weather'  
      *vö.kva* [vøœ:kva] 'to water'  
      *ti.tra* [t<sup>h</sup>i:tra] 'to vibrate'  
      *tvi.svar* [t<sup>h</sup>vi:svar] 'twice'

But the forms in (10.19) illustrate the workings of the length rule in compounds. The forms in (10.19a) show short vowels in front of two consonants, but in (10.19b) we have long vowels throughout:

- (10.19) a. *rauð#vín* [rœyðvin] 'red wine'  
           *við#kvæmur* [viðkvaimyɾ] 'sensitive' (literally: with#touchable)  
           *al#góður* [alkouðyɾ] 'all-good'  
           *her#maður* [hɛrmaðyɾ] 'soldier' (literally: army#man)  
           *vin#margur* [vinmarkyɾ] 'popular' (friend#many)  
           *sigla* [sɪkla] 'to sail'  
           *signa* [sɪkna] 'to make the cross sign, sanctify'
- b. *hvít#vín* [kfi:tvin] 'white wine'  
      *út#valinn* [u:tvalɪn] 'specially selected (literally: out#chosen)'

- út#sýni* [u:tsinɪ] ‘view (literally: out#sight)’  
*út#rýma* [u:trima] ‘make extinct (literally: out#room)’  
*vit#grannur* [vɪ:tkranvʏr] ‘stupid (literally: wit#skinny)’  
*hvít#leitur* [kvi:tleitvʏr] ‘white-looking’  
*út#saumur* [u:tsæymvʏr] ‘embroidery (literally: out sewing)’  
*haus#tak* [hœy:stak] ‘head-lock (in wrestling)’  
*bak#svipur* [pa:ksvipvʏr] ‘look from the back’  
*haus#laus* [hœy:slœys] ‘headless’

The crucial fact is that in compounds we invariably have long vowels before *p*, *t*, *k*, and *s*, regardless of which consonant follows.

And it is interesting to note that postlexical cohesion produces forms which behave in the same way as the latter. As pointed out in Árnason (1998a, 2005a: 198–201), postlexical conditions can call for resyllabification. Thus, due to cohesion, in the examples in (10.20) the open or closed character of the rhymes depends on whether a consonant follows or not:

- (10.20) a. *Ég kom HEIM* [hei:m] ‘I came home’  
 b. *Ég fer HEIM á morgun* [hei:maumorkun] ‘I’m going home tomorrow’  
 c. *Ég kom HEIM til hans* [...heim’tɪlans] ‘I came to his house’ (literally ‘home to him’)  
 d. *Hún kom HEIM sem stórsöngkona* [...’heim’sem’stoursœyŋkɔna] ‘She came home as a diva (after her study abroad)’

In (10.20a–b) the stressed syllable *heim* ‘home’ is open and we have a long vowel, at the end of the utterance in (10.20a), and before a vowel in (10.20b). But in (10.20b–c), where a consonant follows, the syllable of *heim* is closed, and the vowel short accordingly. What happens here is that the onset or extrasyllabic /m/ of /hei.m/ is ‘pushed’ into the coda by a following consonant: /heim.tɪl/, and /heim.sem/.

But as in (10.19), this is dependent on the character of the segments involved. If the consonant following the vowel is a strong one (a plosive or /s/), there is always a long vowel and the syllable is never closed through cohesion, as illustrated in (10.21):

- (10.21) a. *Ég sendi DJÚS til hans* [tju:stɪlās] ‘I sent him some juice (... juice to him)’  
 b. *Ég tók DÚK með mér* [tu:kmeðmjɛr] ‘I took a table cloth with me’  
 c. *Hann kom með DÓS til mín* [tou:stɪlmin] ‘He came with a tin to me’  
     ‘He brought me a tin’  
 d. *Ég kom með SÓP til þín* [sou:ptɪlðin] ‘I came with a broom to you’  
     ‘I brought you a broom’

- e. *Ég tók MAT með mér* [ma:tmeðmjər]  
 I took food with me  
 'I brought along some food'
- f. *Ég er með BÓK sem hann á* [pou:ksemanau]  
 I am with a book which he owns  
 'I have a book which belongs to him'

In (10.21) the stress feet *dóstil*, *sóptil*, *matmeð*, and *bókmeð*, all have long vowels in spite of the fact that two consonants follow.

It would seem that the facts described above can be analysed with reference to a scale of sonority for consonants of the type shown in (10.10), and a set of harmonic scales relating this sonority to syllabic positions or strength. But the important thing to note here is that the syllabic alignment of the strong and the weak segments is different on the two levels of the phonology. On the lexical level, the strong consonants (stops and *s*) can be included in the coda when other consonants than the weakest ones follow—in forms like *sigla* [sɪk'la] 'to sail', *signa* [sɪk'na] 'to sanctify', *hestur* [hestʏr] 'horse'—but on the postlexical level they are altogether excluded from coda position, or equivalently, can form onsets in front of any consonant. In terms of Syllable Contact (see Vennemann 1988; Gouskova 2004), and assuming that the stops and /s/ are the least sonorous or strongest segments, this amounts to saying that no rising sonority (i.e. a positive value on the distance scale) is allowed in heterosyllabic interludes on the postlexical level. From the intra-syllabic point of view, this means that no special degree of sonority distance is required for an onset to be formed in the case of the strong consonants, and conversely that they cannot form codas.

Thus, on the lexical level, *p*, *t*, *k*, *s* avoid the coda by forming onsets across *v*, *j*, *r*, but are 'unable' to do so across other consonants. But in the postlexical phonology, *p*, *t*, *k*, *s* refuse altogether to enter the rhyme, and instead they form extrasyllabic onsets, whatever the consequences. The result is that in compounds we have long vowels not only in forms like *út#valinn* [u:tvalɪn] 'specially selected' and *út#rýma* [u:trɪma] 'make extinct', but also in *út#sýni* [u:tsɪnɪ] 'view', *vit#grannur* [vɪ:tkranʏr] 'stupid', *hvít#leitur* [kvi:tleitʏr] 'white-looking', etc. No other consonants can form onsets across other consonants so that in all other cases, the first consonant of an interlude consisting of more than one consonant joins the coda, and therefore the forms in (10.19a) and (10.20c and d) have closed syllables and short vowels.

Yet another interesting point shown by the postlexical form of the length rule is that the structural characteristics of the 'long' vowels are less stable postlexically than the characteristics of the short vowels. The 'long' vowels do not have to be faithful to their length. This happens when syllables are closed by following consonants, as in *rauðvín* and *heimtilans*, when this is allowed by the syllabic characteristics of consonants. The only available category in the postlexical output for a 'shortened' long vowel is of course a short vowel. Hence the conditions are the same postlexically in *heim til hans* [heim.tɪlans] 'home to him' as in *heims* [heim.s] 'world-GEN'. But crucially, forms with open syllabification and a short vowel are ill-formed (perhaps due to a high ranking of a constraint something like DEP-Vμ). Forms like \*/n̥.pja/



(cf. *nepja* [nɛ.pja] ‘cold weather’ in 10.18b) and \*[kfĩ.tvin] (cf. *hvít#vín* [kfĩ:tvin] ‘white wine’ in (10.19b)) with open syllables and a short vowel are impossible, since an input with a short vowel cannot be mapped onto an output without a consonant included in the stress matrix.

### 10.3 THE PROSODIC CHARACTER OF FAROESE VOWELS

The conclusion in section 10.2 was that the short vowels in Icelandic should be characterized as prosodically inactive, meaning that they do not take part in the lengthening which is part of the realization of the sentential accent, whereas long open syllable vowels and coda consonants are lengthened according to stress (Stress-to-Weight). Thus the long and the short vowels form different systems and minimal pairs show up where vowel length and/or syllable structure is distinctive. And this ties in with the observations made in section 8.1, where it was shown that the long and the short systems in MI are drifting apart, making the melodic correspondences less isomorphic.

Turning now to the problem of analysing the Faroese diasystem, as described in sections 8.2–3, it is even more obvious than in the case of Icelandic that the ‘long’ and the ‘short’ systems cannot simply be analysed as one set of melodies or vowel colours mapped onto a simple measure of length. For correspondences like *ljótur* [ʎou:tʊɪ] ‘ugly’ – *ljótt* [ʎœht:], etc., the melodic differences are too great. But the prosodic correspondence is regular, and we must assume that all the short vowels of Faroese share a property which determines their participation in the realization of stress and accent.

The realization of the sentence accent in Faroese follows the same basic principles as in Icelandic, so that a single syllable forms a stress matrix, causing lengthening of the vowel in an open syllable and of the coda consonant in a closed syllable. As pointed out by Rischel (1961: xvi), the length of heavy syllables can either lie in the vowel or the consonantal part which follows the vowel.<sup>10</sup> Thus long vowels in forms like *bátur* [pɔɑ:(<sup>h</sup>)tʊɪ] ‘boat’ and *lítill* [lɔi:tɪl] ‘small’ are lengthened under sentence stress, whereas in closed syllable forms like *hestur* ‘horse’, *gloymdi* ‘forgot’, the lengthening falls on the consonant, [hes’tʊɪ], [klɔ(i)m’tɪ], creating half length as in Icelandic. This is based on syllabification, by which *hes.tur* and *gloym.di* have short vowels with coda consonants, and *bá.tur* and *lí.til* have open syllables.

There is, therefore, in the traditional vocabulary of MF, a dichotomy, similar to the one in Icelandic, between two types of rhyme, consonantal or vocalic. And we can say that the short vowels in Faroese are stigmatized as non-moraic, which means that in order for a proper stress matrix to be formed, a consonant has to be included in the rhyme. Thus a form like \*/t<sup>h</sup>œ.mʊɪ/, for example, with a short vowel in an open

<sup>10</sup> ‘I lange stavelser kan længden enten ligge i den vokaliske del eller i den konsonantiske del efter vokalen.’

syllable, is ill-formed, in much the same way as the Icelandic construct: \*/nē.pja/ (cf. *nepja* [nee:pja] ‘cold weather’ in (10.18b)).

And in spite of the quality differences, the ‘long–short’ correlation is still valid to some extent, defining the relevant vowels as unable to cope with the accent. This affects syllabification, or conversely, syllabification limits the melodic choices in closed syllables. But there is a difference between Icelandic and Faroese in that the ‘distance’ between a potential ‘input’ like \*/t<sup>h</sup>œ.mʊɹ/ and a potentially well-formed output such as [t<sup>h</sup>œu:mʊɹ] with a diphthong, or [t<sup>h</sup>ø:mʊɹ] with a phonetically long vowel, would be much greater than in most Icelandic cases. To ‘create’ a vocalic rhyme, it is not enough simply to ignore (or demote) the shortness-marker; the vowel quality would have to be ‘changed’ as well, replacing /œ/ either with the diphthong [œu] or a mid high rounded [ø]. Another ‘option’ is of course to supply a coda as a first part of a geminate, giving something like [t<sup>h</sup>œm.mʊɹ], which would be phonologically well formed, although such a word does not seem to exist in Modern Faroese.

The conclusion, then, is that the prosodic and syllabic characteristics of Faroese vowels (cf. section 5.2) can be represented by the superscript ‘shortness stigma’ ‘˘’, as shorthand for the non-moraic character (\*μ) of the vowels, as shown in (10.22):

- (10.22) Short (non-moraic) vowels in Faroese:
- | Monophthongs            | Diphthongs                    |
|-------------------------|-------------------------------|
| /ĩ/ [ɪ] /ỹ/ [ɣ] /ũ/ [ʊ] | /oĩ/ [ʊi] /aĩ/ [ai] /ɔĩ/ [ɔi] |
| /ě/ [ɛ] /ø/ [œ] /ō/ [ɔ] |                               |
| /ǣ/ [a]                 |                               |

Other vocalic units in Faroese are unmarked, as shown in (10.23):

- (10.23) Monophthongs      Diphthongs:
- |      |      |      |       |       |       |
|------|------|------|-------|-------|-------|
| [i:] | [y:] | [u:] | [ɛi:] | [œu:] | [ɛa:] |
| [e:] | [ø:] | [o:] | [ai:] | [au:] |       |
|      | [a:] |      | [ɔi:] | [ɔu:] | [ɔa]  |
|      |      |      | [ʊi:] |       |       |

As we saw in previous chapters, the phonological development in Faroese has had the effect that some natural segment types, like OWN /i:/ and /au/, have been eliminated in the traditional vocabulary. But new instances of these segments have been introduced, either by internal phonological development or in loanwords. A long /i:/ has been developed from an old short /i/ in *linur* [li:nʊɹ] ‘soft’, and /au/ has developed by vocalization of older /v/ in *navn* [nau:n] ‘name’ and instances of /au/ have been added in loans like *August* and *klaustrofobi* [klaustrəfo’pi] ‘claustrophobia’, *aura*, *aula*, *dino’ sau:rur*, *klaustrofobi* [klaustrəfo’pi], *Australia* [au’stralja] ‘Australia’, and *august* [aukust] ‘August’.

The question arises how these new forms fit into the diasystemic structure displayed in (10.22) and (10.23). As mentioned in section 5.1.2, there is no traditional short correspondent of /au:/ in these forms, although it seems that a short [au] may occur in forms like *javnt* [jaʊnt] ‘even’, so it is not obvious that /aũ/ should be listed

among the short diphthongs. Also, as pointed out in section 9.2 overlength, that is open syllables before shortening environments, is well known from forms like *báts* [pɔɑ:(<sup>h</sup>)ts] ‘boat-GEN’ or *skip*s [ʃi:ps] ‘ship-GEN’, *spaksintur* [speɑ:ksɪntʊɹ], *spaklyndur* [speɑ:(<sup>h</sup>)klɪntʊɹ] ‘easy-going’, *stórskorin* [steu:ɹskorin] ‘rough-hewn’, *stórsegl* [steu:ɹsekl] ‘mainsail’. Although it is quite possible that the length of vowels under these conditions varies according to rhythm or style, it is unlikely that those instances should be classified among the historical closed-syllable rhymes, that is those containing a short nucleus belonging to the set of short vowels in (10.18) and a coda consonant: forms like *ljótt* [lœ<sup>h</sup>t:]], *høgt* [hœkt] ‘high-N’, *gult* [kʊ<sup>h</sup>lt] ‘yellow-N’, *toldi* [t<sup>h</sup>ɔldi] ‘endured’. In fact it looks as if the closed syllables of this type form a sort of closed system, since they do not occur in loan words.

The conclusion is that the Modern Faroese syllable structure has important traits in common with Modern Icelandic, but that significant differences can be detected, as witnessed by phonological properties which are revealed when it comes to adapting loanwords to the system.

#### 10.4 VOWEL SHORTNESS AND THE SCALE OF PROMINENCE

To conclude this chapter, we will briefly consider the relevance of vowel shortness to the relation of prominence, which has been discussed on two main occasions: sections 8.2.2 and 9.6. This relation is particularly relevant as regards the polysystemic structure of Faroese vowels (and Finland Swedish, cf. the Excursus), but it seems that it may be of interest in some other contexts as well, for example regarding the neutralization of consonantal oppositions in different surroundings. As we saw in section 8.2.2, Harris (2005a) notes that different environments can be defined as those of maximum opposition vs neutralization, so that there is an inverse relation between ‘prominence’ and neutralization. So, neutralization takes place in less prominent positions, a typical case being vowel reduction in unstressed syllables.

Central to this conception of prominence is the idea that different places in the phonetic string carry more information than others in some sense. But we noted that we should distinguish between **functional** prominence, which has to do with the ‘[modulation] of attention across speech signals’ and the question of how this principle is reflected in the phonological **form** or **structure** of an individual language rather than purely conditioned by pragmatic use.

The most obvious ‘linguistic’ or phonological correlate of prominence of the sort referred to above is stress in a broad sense, meaning word stress (defining stress relations between syllables in words) and sentence stress or accent (defining strength relations between words in phrases). But it is also possible to refer to other kinds of prominence, for example based on constituent structure within smaller constituents like the syllable, as is often done in referring to headedness or strong–weak relations between constituents within syllables.

It was shown in chapters 8 and 9 that in both consonants and vowels there are principled differences in the inventory of segments which are allowed to form

oppositions in different environments. The general picture was that some positions allow more oppositions than others. Obviously such restrictions call for definitions on the one hand of syllabic positions, such as onsets or nuclei or codas, and on the other of the type of segment allowed in the positions. The most interesting case in our data is the polysystemic character of the Faroese vowel system, and it was suggested that the restrictions regarding the distribution of 'long' nuclei, 'short' nuclei, and reduced vowels is related to a scale of prominence.

Since it is not the main purpose of this work to establish a universal alphabet for phonological representation, but rather to present the facts of Icelandic and Faroese in such a way that the implications of the structure for such an endeavour may become as clear as possible, we may conclude with the following tentative observations:

To conceptualize the idea of prominence we need definitions of structural positions, which may be characterized with respect to their role in the prosodic build-up of the utterance. The more prominent positions are prosodically more active. From this, we can conclude that from the point of view of word structure, the most prosodically active part is the rhyme. The prosodic activity shows itself in the lengthening which comes with the accent. And here, crucially, the short vowels are not eligible. The short vowels are non-moraic and thus prosodically inactive.

In both languages, the increased frequency of open syllables, as manifested in overlength, can be taken to show that the distribution of long and short vowels is no longer fully determined by syllabification. Frequent analogical levelling, whereby open syllables replace closed ones in paradigms where a 'short' versus 'long' alternation is expected, shows that the opposition can be handled in morphophonemics. But, on the other hand, it can be said that the increase in frequency of open syllables tends to maximize the natural and informationally-favourable construction of open syllables.

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## Part IV

### Segments and syllables on phonological levels

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## ASPIRATION IN SYLLABIC AND SEGMENTAL STRUCTURE

We have seen in previous chapters that aspiration, which developed through fission separating the H element from other basically supralaryngeal elements in the series of stops (cf. section 2.7), can either follow (as normal aspiration) or precede (as preaspiration) the stops where it developed. This is true of both Icelandic and Faroese, but the two languages have treated the outcome in different ways, which, among other things, means that preaspiration has a different status in the system of the two modern languages. The difference is reflected, for example, in the fact that scholars have considered the possibility of seeing Icelandic preaspiration as a ‘full-blown segment [h] followed by a stop’ (Hansson 2003: 50), or a ‘full-fledged moraic own segment [h]’ (op. cit.: 64), whereas Faroese preaspiration has been found to have a shorter duration relative to the following stop and hence to behave less like a separate segment. Although it is in fact not immediately clear what it means for something to be a ‘full-blown segment’, phonetic measurements suggest that there is a systematic difference in the realization of preaspiration in Icelandic and Faroese, which might be interpreted in this way, that is, that preaspiration is somehow prosodically or phonotactically independent in Icelandic, but a feature of a segment in Faroese.<sup>1</sup>

In this chapter we will first (section 11.1) discuss the representation of aspiration in general (post- and pre-) and the character of the opposition between fortis and lenis consonants. Section 11.2 treats the analysis of preaspiration, its distribution and relation to other phonotactic characteristics in Icelandic; in section 11.3 we will have a look at aspiration in Faroese, and in section 11.4 the main differences and similarities between Icelandic and Faroese are summarized from a historical perspective. Section 11.6 provides a brief description of preaspiration in relation to phonological levels and morphophonemics.

<sup>1</sup> A useful distinction made by Coleman is between ‘strict segmentation’ with no temporal misalignment allowed between the features or components of the segment and ‘lax segmentation’, which allows some temporal misalignment (Coleman 1998: 37). The question arises when we move from one segment with lax segmentation (e.g. moving vowels or stop with aspiration) to a sequence of a stop and a separate [h]-segment. The difference between Faroese *báturi* [pɑː<sup>h</sup>tʊɪ] ‘boat’ (co-catenation and lax segmentation) and concatenation, as in Icelandic *hattur* [hahtʏr] ‘hat’ could be seen as involving this sort of difference. But we must observe that there seems to be no general or universally defined cut-off point between monophthongs with lax segmentation and bisegmental analysis; each language (speaker/phonologist?) has to make up its (his/her) mind, so to speak.





than internal ones. And accordingly the fortis–lenis opposition is more clearly expressed in foot-initial position (i.e. before a stressed vowel) in these languages, as in MF *peika* [p<sup>h</sup>ai:ka] ‘to point’ vs *bera* [pe:ɪa] ‘to carry’, *tosa* [t<sup>h</sup>o:sa] ‘to speak’ vs *dalur* [tɛa:lɔɪ] ‘valley’, and MI *pera* [p<sup>h</sup>ɛɛ:ra] ‘pear, light bulb’ vs *bera* [peɛ:ra] ‘to carry’, *tala* [t<sup>h</sup>ɛa:la] ‘speak’ vs *dala* [ta:la] ‘valley-ACC.PL’, etc.

When it comes to internal onsets, both languages show dialectal variation between ‘hard’ and ‘soft’ varieties (cf. sections 9.3.3 and 9.4.4), so that in words like *pápi* ‘daddy’ and *bátur* ‘boat’, which have parallel Icelandic and Faroese forms, the internal stop is realized as unaspirated in the soft varieties, that is MF [p<sup>h</sup>ɔa:pɪ], [pɔa:tɔɪ], MI [p<sup>h</sup>au:pɪ], [pau:tʏɪ], whereas in the ‘hard varieties’ they are pronounced with aspiration. In the case of Faroese this is mainly realized as preaspiration or a relatively weak ‘puff of air’ between the vowel and the closure: [pɔa:<sup>h</sup>tɔɪ], [p<sup>h</sup>ɔa<sup>h</sup>pɪ]; and similarly for forms like *apa* [ɛa:<sup>h</sup>pa] ‘ape’, *vakur* [vɛa:<sup>h</sup>kɔɪ] ‘beautiful’, *eta* [e:<sup>h</sup>ta] ‘to eat’. (After high vowels there are few if any records of either preaspiration or postaspiration after open syllables in Faroese.)

In the case of Icelandic, the ‘hard’ variant pronunciation takes the form of postaspiration: [p<sup>h</sup>au:p<sup>h</sup>ɪ], [pau:t<sup>h</sup>ʏɪ], etc. And this characteristic has a geographic distribution overlapping with another dialect feature, the so-called ‘voiced’ pronunciation of forms like *vanta* ‘to lack’ and *hjálpa* ‘to help’. In the voiced variant the coda sonorants, represented by *l* and *n* in the spelling, are voiced and followed by aspirated plosives: [vant<sup>h</sup>a], [çaulp<sup>h</sup>a]. Conversely the ‘soft’ variant of Icelandic, which has unaspirated plosives intervocalically—[p<sup>h</sup>au:pɪ] and [pau:tʏɪ] for *pápi* and *bátur*—is geographically associated with the voiceless pronunciation of *vanta* and *hjálpa*: [vaŋta] and [çaulpa].

Thus it can be said that the West Nordic consonant shift, substituting aspiration for voicing as an opposition in plosives, has been fully carried out in initial position in both Icelandic and Faroese, but has left somewhat blurred isoglosses distinguishing between ‘hard’ varieties with aspiration in postvocalic or foot internal position, and ‘soft’ ones, where intervocalic single stops do not have aspiration. And the demographic distribution of these varieties in Icelandic is related to that between voicing versus devoicing in coda consonants.

### 11.1.2 Phonotactic or phonetic neutralization of the fortis–lenis opposition?

We saw that in the voiceless pronunciation of *vanta* and *hjálpa*, [vaŋta] and [çaulpa], there is no aspiration after the voiceless sonorants. And in general, the fortis–lenis opposition is fully neutralized after voiceless consonants both initially and internally, as in MI *spaði* [spa:ði] ‘spade’, *hespa* [hespa] ‘loop’, *vanta* [vaŋta] ‘to lack’, and MF *spæla* [spea:la] ‘to play’, *hestur* [hestɔɪ] ‘horse’ and *vanta* [vaŋta] ‘need’. The absence of aspiration in these examples may be seen as due to the phonetic fact that the spread glottis feature or H is shared by the preceding segment, as shown in (11.2), so that for aspiration or voicelessness to be realized, there is no ‘need’ for it to have an effect on the release of the following stop:

## (11.2) Icelandic:

/spa.ði/	/hěs.tyr/	/vaŋ.ta/
V	V	V
H	H	H

Faroese:

/spɛa.la/	/hěs.tur/	/vǎŋ.ta/
V	V	V
H	H	H

The absence of aspiration after voiceless sounds in forms like those above therefore has a plausible phonetic interpretation. The spreading of the [H] element over more than two segmental positions, which would have been necessary for pronunciations like [sp<sup>h</sup>a:ði], [hɛst<sup>h</sup>yr], and [vǎŋ<sup>h</sup>a], is simply implausible for phonetic reasons (presumably to do with articulation).

But another interpretation might be to say that the lack of aspiration in voiceless forms like MI *vanta* [vaŋ.ta] 'to need', where we have an unaspirated stop in a foot internal onset, is due to a systematic suppression or neutralization of the fortis–lenis opposition in foot-medial position, that is in the onset of the second syllable of a disyllabic foot (cf. Jónsson 1994; Harris 1997). According to this interpretation, the absence of aspiration in *vanta* [vaŋta] 'to need' should be related to the absence of aspiration in internal onsets in the Icelandic soft speech variant form for words like *fata* [fa.ta] 'bucket', that is with unaspirated stops in the onset of the second syllable, which is the old neutralizing environment, namely foot-medial position.

One argument for this foot-based or phonotactic account is the above-mentioned distributional relation between the voiceless variant pronunciation and the soft pronunciation. It is basically true as a statement of dialectal distribution that voicelessness as a dialect feature implies soft speech, that is to say that if a speaker has the voiceless variant [vaŋta] for *vanta* (s)he has to have the unaspirated variant [fa.ta] for *fata*; but having the aspirated variant does not imply having the voiced variant [vant<sup>h</sup>a]. Thus lack of aspiration necessarily implies voicelessness, but not the other way round. One way to interpret this might be to see the lack of aspiration in the internal onset of [fa.ta] as due to some sort of general constraint against aspiration in a foot-internal onset in the soft dialect. When a long vowel precedes, as in an input like /fa.ta/, this would exclude the H-element completely from appearing in the output, whereas following a short vowel it would be allowed to be realized as preaspiration in *fatta* [fǣh.ta] 'to understand' or as voicelessness on a sonorant as in *vanta* [vǎŋta] 'to lack'. Thus preaspiration and devoicing in the coda would somehow be triggered by the ban on postaspiration in foot-medial position.

However, it must be noted that the expectation that neutralization as an exclusion of the marked member of the opposition in foot-internal position is not fully carried out in Icelandic and Faroese. As shown in sections 6.2.3 and 9.3.3, in both the hard and the soft varieties of Icelandic the neutralization can be interpreted as an accidental gap. Thus, although in the hard dialect there are no traditional words like \*[su.pa] without aspiration after long vowels and conversely, in the soft dialect, there are no

traditional words like \*[su:p<sup>h</sup>a] with aspiration, the fact is that in both dialects, loanwords have filled the gaps created by this historical situation: forms like *radar* [ra:taɾ] ‘radar’ contrast with forms like *ratar* [ra:t<sup>h</sup>ar] ‘finds the way’ in the hard variety, and in the soft variety words like *ópera* [ou:p<sup>h</sup>era] ‘opera’ and *Ítalía* [i:t<sup>h</sup>alija] ‘Italy’ form near minimal pairs with words like *sópa* [sou:pa] ‘to sweep’ and *líta* [li:ta] ‘to look’.<sup>2</sup>

It is thus not the case that lack of aspiration in the onset of the second syllable of Icelandic *vanta* [vaŋta] ‘to need’ derives from a general phonotactic constraint of the type seen in Danish, neutralizing the fortis–lenis opposition. Rather, the absence of aspiration in this form is due to the same sort of conditions as in *sp-*, *st-*, *sk-* clusters, that is due to coarticulation and the implausibility of the H-element spreading over both the offset of the preceding syllable and the onset of the following one. This conclusion has consequences for the analysis of preaspiration, as we shall see.

## 11.2 PREASPIRATION IN ICELANDIC

### 11.2.1 *The phonetic character*

Turning to preaspiration proper, we will start by considering the justification for the practice of transcribing Icelandic preaspiration as a full [h] rather a superscript [h̥].

Previous phonetic research (e.g. Pétursson 1972) has suggested that preaspiration can be quite long and longer than postaspiration. These findings are confirmed by measurements of the durational relation in my own speech between the preaspiration and the following stop in utterances of the type shown in (11.3):

- (11.3) *Jón setti upp HETTUNA*  
           ‘John put up the hood’  
       *Stína átti NÁTTKJÓL*  
           ‘Stína owned a night gown’  
       *Jón hitti SKYTTUNA*  
           ‘John met the shooter’

<sup>2</sup> Hansson (2003) addresses the problem of how to account for the apparent neutralization of the hard/soft opposition in intervocalic position, coming to the conclusion that the lack of opposition in intervocalic position is indeed an accidental gap, which according to him implies that the ‘Richness of the Base’ is not a ‘necessary ingredient of OT’. He in fact seems to point out a fundamental theoretical problem in the conception that ‘the source of all systematic cross-linguistic variation is constraint reranking’ and that the set of inputs to the grammars of all languages is the same. Implicit in this conception is a postulation that there are no special constraints (except for some universal ones) ‘[assessing] the well-formedness of lexical representations’. The basic problem in this OT view is the relation between the lexicon and the output. According to the theory, surface contrast is the only source of phonological contrast. So if there is no form to be found where we have a surface opposition between hard and soft stops in intervocalic position, there is no way of introducing the opposition. But in both Icelandic and Faroese, loanwords have introduced an opposition between fortis and lenis in internal position.

*Jón drakk LAKKIÐ*  
 ‘John drank the lacquer’

*Jón fékk BEKKINN*  
 ‘John got the bench’

*Þeir drukku úr KRUKKUM*  
 ‘They drank from jars’

Here the same rhymes are repeated in one and the same utterance, first in a prenuclear unstressed position, and then in a nuclear position. The utterances, one for each type of form, were read in a careful style with a clear nuclear accent in the last word. The results of the measurements are shown in Table 11.1.

As can be seen from Table 11.1, the preaspiration is normally at least as long and usually longer than the following closure in forms like *setti* [sehti] ‘put’, *átti* [auhti] ‘owned’, *hettuna* [hehtyna] ‘the hood’, *náttkjól* [nauhtcou] ‘nightgown’ etc. The figures in Table 11.1 also show that the h/C ratio increases with a stronger accent. This means that the durational increase that comes with the accent has a greater effect on the preaspiration than on the following stop and it tallies well with the observations reported in section 10.1.3 that durational differences due to accentuation of closed syllables are mainly realized on the coda of the stressed syllable. And this increase in the h/C ratio from unaccented syllables to accented ones justifies the practice of transcribing accented forms like the nuclear ones in (11.3) with half length, i.e. as: [hehˈtyna], [nauhˈtcou], etc.

### 11.2.2 The distribution of preaspiration in Icelandic

There are, generally speaking, two necessary conditions for preaspiration to occur in Icelandic: the preceding vowel has to be short, and a stop has to follow. (But the

TABLE 11.1 The relative duration of preaspiration and a following stop in accented vs unaccented position in Icelandic utterances measured in milliseconds. In accented position the ratio between the preaspiration and the following stop (h/C) is 1.26 on average and it is never below 1.0, which means that the preaspiration is at least as long as the closure, and usually longer. In the unaccented tokens, the ratio is lower as a rule and may be below 1.0, but the average is still above 1.0.

h/C ratio (Unaccented)	h/C ratio (Accented)
<i>setti</i> ‘put’: h/t = 70/50 = 1.4	<i>hettuna</i> ‘the hood’: h/t 95/90 = 1.0
<i>átti</i> : h/t = 58/67 = 0.86	<i>náttkjól</i> : h/t = 125/81 = 1.5
<i>hitti</i> : h/t = 50/64 = 0.8	<i>skyttuna</i> : h/t = 80/61 = 1.3
<i>drakk</i> : h/k = 70/57 = 1.2	<i>lakkið</i> : h/k = 100/82 = 1.2
<i>fékk</i> : h/k = 100/100 = 1.0	<i>bekkinn</i> : h/k = 109/91 = 1.2
<i>drukku</i> : h/k = 80/60 = 1.3	<i>krukkum</i> : h/k = 140/100 = 1.4
Average ratio: 1.09	Average ratio: 1.26

conditioning is not sufficient, since short vowels can occur before stops without preaspiration.)

Examples of oppositions involving preaspiration are given below. Here we have two types of settings, reflecting the fact that preaspiration occurs on historical geminates or on stops before noncontinuant sonorants (i.e. nasals and /l/) as shown in (11.4):

(11.4) Preaspiration on geminates:

<i>koppi</i> [k <sup>h</sup> ɔhpɪ] ‘chamber-pot-DAT’	<i>kobbi</i> [k <sup>h</sup> ɔp:i] ‘young seal’
<i>hattur</i> [hahtyʀ]/[hah.tyʀ] ‘hat’	<i>haddur</i> [hat:yʀ] ‘hair’
<i>bakka</i> [pahka] ‘bank-ACC’	<i>bagga</i> [pak:a] ‘bundle-ACC’

Preaspiration on stops before noncontinuant sonorants:

<i>epla</i> [ɛhpla] ‘apples-GEN’	<i>efla</i> [ɛpla] ‘to strengthen’
<i>sakna</i> [sahkna] ‘to miss’	<i>sagna</i> [sakna] ‘stories-GEN’
<i>opna</i> [ɔhpna] ‘open’:	<i>ofna</i> [ɔpna] ‘radiators’
<i>Atla</i> [ahtla] ‘Atilla-ACC’	<i>alla</i> [atla] ‘all-ACC.PL’
<i>batni</i> [pahtnɪ] ‘improve-SUBJ.SG’	<i>barni</i> [patnɪ] ‘child-DAT.SG’
<i>vakla</i> [vahkla] ‘vacillate’	<i>vagla</i> [vakla] ‘beam-GEN.PL’
<i>svikna</i> [sfikna] ‘betrayed ACC.PL’	<i>svigna</i> [sfikna] ‘bend-INTRANS’

In addition to the indigenous examples shown in (11.4), preaspiration can occur in loan words, showing that it has a natural place in the phonological structure, and is a clear marker of the Icelandic ‘accent’:

- (11.5) *rytmi* [rɪhtmi] ‘rhythm’  
*sjitt* [sjɪh.t] ‘shit’  
*fökkjú* [fɔh.cu]/[fɔhkju] ‘fuck you’  
*blokk* [plɔh.k] ‘block’  
*bitnet* [pih.tnet] ‘bitnet’  
*takla* [tah.kla] / *tækla* [taih.kla] ‘tackle’

But new forms with short vowels followed by plosives without aspiration can also occur as shown in (11.6):

- (11.6) *gabbró* [kap:rou]/[kap.prou] ‘gabbro’  
*blogga* [plɔk:a]/[plɔk.ka] ‘to blog’  
*aggressívrur* [ak:rɛsivʀ] [ak.krɛsivʀ] ‘aggressive’<sup>3</sup>

Taking long vowel forms into account, a three-way opposition is thus possible between a short vowel + a preaspirated stop (hC), a short vowel + an unaspirated stop (CC), and a long vowel + unaspirated stop (C).

<sup>3</sup> There is also a variant form with a long vowel: [a:krɛsivʀ].

- (11.7) *koppar* [k<sup>h</sup>ɔhpɑ̝] ‘chamber pots’  
*kobbar* [k<sup>h</sup>ɔp:ɑ̝] ‘young seals’  
*kopar* [k<sup>h</sup>ɔo:pa̝]/[k<sup>h</sup>ɔɔ:p<sup>h</sup>ɑ̝] ‘copper’  
*hattar* [hahta̝] ‘hats’  
*haddar* [hat:ɑ̝] ‘hair, hairdo (pl.)’  
*hatar* [ha:ta̝] ‘hates’  
*rokkinn* [rɔhcɪn] ‘dark’  
*rogginn* [roc:ɪn] ‘self assure’  
*rokinn* [roɔ:c<sup>h</sup>ɪn] ‘blown’

But the fourth option—a preaspirated stop following a long vowel—is absent in Icelandic, as already noted.

Before continuant sonorants, the situation is the same as in (11.7), we have a three-way opposition, since long vowels may occur before singleton consonants, according to the length rule (cf. section 10.2).

- (11.8) *mættra* [maihtɾa] ‘present-GEN.PL’  
*mæddra* [mait:ɾa] ‘dressed-GEN.PL’  
*mættra* [mai:ɾa] ‘honourable-GEN.PL’  
*rökkva* [rœhkva] ‘to become dark’  
*höggva* [hœk:va] ‘to hew’  
*skrökva* [skrœæ:kva] ‘to lie’

### 11.2.3 Phonological analysis

In the heyday of generative phonology, descriptions were proposed, deriving preaspiration from underlying hard stops. For Thráinsson (1978) this involved a deletion of the supralaryngeal features of the first of two identical and adjacent stops:

- (11.9) /hattur/ > /hahtur/

However, for this to work it was necessary to assume a ‘Duke of York’ derivation for forms like *epli* [ɛhplɪ] ‘apple’ and *opna* [ɔhpna] ‘to open’. Thus it was necessary first to add a segment, giving something like *eppli* and *oppna* and then delete the supraglottal features of the first of a pair of geminates. It seems that a derivation like /epli/ > /eppli/ > /ehpli/ is hard to motivate independently of its need for the analysis to work. Another problem, in retrospect, for this analysis is the one mentioned in section 3.2.3 in connection with our discussion of the diphthongization paradox. This is that within the Autosegmental paradigm, the Obligatory Contour Principle demands unity of segments independently of their skeletal representation, so that a long or geminate plosive is just one melody associated with two skeletal positions. And given this, there is no way of splitting a geminate segment except by

first creating a new node in order for the different melodic properties to be placed in two positions.<sup>4</sup>

Still another complication for the geminate-cum-deletion account is the voicelessness of the sonorants in *vanta* [vaŋta] ‘to need’, etc., discussed in section 11.1.2, which it is natural to connect to preaspiration (cf. e.g. Hansson 2001 and the discussion in section 11.2.3 below). Given that the voicelessness of the [ŋ] in *vanta* is due to spreading of the H-element from the following plosive, ‘segmentality’ is not part of the characteristic of the realization of preaspiration in these forms. And generally speaking, the deletion metaphor does not account for the distribution of preaspiration, since it is not clear when gemination should apply in order to generate preaspiration from a single stop.

It is for reasons like these that it is argued in Árnason (1986, cf. also Rögnvaldsson 1993), that a rule based account could be formulated deriving preaspiration from input forms with hard stops by some sort of diphthongization or fission in the appropriate syllabic environments, that is after short vowels. This accounts easily for the occurrence of preaspiration in both *epli* [ehplɪ] ‘apple’ and *hattur* [hahtyr̥] ‘hat’. And the diphthongal metaphor is also better suited to account for the devoicing of sonorants before fortis stops in forms like *vanta* [vaŋta] ‘to need’. In this view, preaspiration is seen as a displaced feature of the stop, rather than as a remnant of a segment left by the deletion of supralaryngeal features.

Attempts have been made at treating preaspiration in the framework of Optimality Theory, for example by Ringen (1999) and by Hansson (2003). Both of these studies see the problem of accounting for preaspiration as that of describing how a feature [spread glottis] (H in our terms) belonging to input segments is realized in outputs according to the ranking of constraints. (See Gussmann 1999, 2000 for a treatment of Icelandic preaspiration and syllabification in terms of Government Phonology.)

According to Ringen (1999), the occurrence of preaspiration in forms like *þakka* [θahka] ‘to thank’ is due to a constraint which prohibits moraic (i.e. long or geminate) obstruent stops that are [spread glottis]. Thus an input with a moraic (i.e. geminate) hard stop is realized with a mora on the aspiration:

$$(11.10) \quad \begin{array}{c} \mu \mu \mu \\ | \quad | \quad | \\ [\theta a h k a] \end{array}$$

Another highly ranked constraint is one which, in this analysis, demands IO-identity of the spread glottis feature, which is why the preaspiration is realized in the first place. In forms like *gatna* [kahtna] ‘streets-GEN’, the input does not have

<sup>4</sup> A point in favour of the segment-based analysis, by which preaspiration is what is left of a separate segment, might be the fact that Icelandic preaspiration is in some sense like a segment. The analysis sees preaspiration in *hoppa* and *epli* as due to the loss of the oral features of the first of two consonants (*hoppa* > *hohpa* and *epli* > *ehpli*). But as argued below, the segmenthood of preaspiration derives from its syllabification as a coda, which has nothing to do with underlying gemination.



a moraic /t/, but a mora is supplied by the ‘Weight by Position Constraint’ (Ringen 1999: 144), which calls for bimoraic stress matrices, and the optimal output is as shown in (11.11):

- (11.11)
- |           |   |   |
|-----------|---|---|
| μ         | μ | μ |
|           |   |   |
|           |   |   |
|           |   |   |
| [kaht.na] |   |   |

In this analysis the aspiration is then moraic, and its appearance is due to the high ranking of the IO-constraint demanding the appearance of the [spread glottis] feature; in some cases, it is due to an input mora, but in other cases it is supplied by a prosodic output constraint. To account for the spreading of [spread glottis] into preceding sonorants, as in *úlpa* [uɭpa] ‘overcoat’, a constraint (called ‘Multiple link [sg]’) states that [spread glottis] must be linked to more than one consonant (1999: 140).

Hansson (2003) proposes a comparative OT account of aspiration in Icelandic and Faroese, noting that ‘Faroese preaspiration seems to be a genuinely subsegmental property, whereas in Icelandic it is clearly a full-fledged moraic segment [h]’ (2003: 64). Thus for Hansson, moraicness is the essential criterion for the segmenthood of Icelandic preaspiration, and aspiration in the output corresponds to a spread glottis feature in input segments, moraic (geminate) or non-moraic, depending on environments, and sometimes due to moras in the input.

But it has been argued above that the segmenthood of Icelandic preaspiration as a result of fission is not something which it ‘inherits’ as such from its roots in the input consonants. The main motivation for the practice of transcribing Icelandic preaspiration as a segment is the fact that as a ‘displaced’ feature it joins the stress matrix and forms part of the coda, and then tends to be lengthened under stress in a similar way to other sounds which occur in that environment. There is thus good reason to give the preaspiration in *hattur* ‘hat’ the same prosodic status as the /s/ in *hestur* ‘horse’ and the /n/ in *vandi* ‘problem’, as shown in (11.12):

- (11.12) *hattur* [hǎh.tʏɾ̥] ‘hat’  
*hestur* [hěs.tʏɾ̥] ‘horse’  
*vandi* [vǎn.tɪ] ‘problem’

So, what happens in Icelandic is that the aspiration has become prosodically independent, so to speak, and separated from its source and is included in the stress matrix, that is it forms the coda of the preceding syllable. And here the connection with vowel length is important. According to the analysis in Chapter 10, the short vowel is defective as a recipient of stress, and thus there is a ‘slot’ for the H-element following it, and the [h] in [hǎh.tʏɾ̥] forms part of the stress matrix. But no such slot is available after long vowels, for example in forms like *hatar* [ha.taɾ̥] ‘hates’ (cf. 11.7) or *mætra* [mai:tra] ‘honourable-GEN.PL’ (cf. 11.7–8).

But, although from this prosodic point of view, preaspiration is ‘free’ and on a par with a normal segment, its distribution is not free phonotactically speaking.<sup>5</sup> We have noted that there are two necessary conditions for preaspiration to occur. First, the preceding vowel must be short, and secondly preaspiration cannot occur unless a stop follows. This latter fact is shown by examples like the ones in (11.13), where we see variant forms of morphologically complex forms related to *vatn* ‘water’:

- (11.13) *vatn* [vǣhtn] ‘water-NOM’  
*vatns* [vǣhtns]/[vǣs:]/\*[vǣhs] ‘water-GEN.SG’  
*vatnslaus* [vǣhtnsløys]/[vǣsløys]/\*[vǣhsløys] ‘without water, waterless’

As can be seen, there is more than one option in the pronunciation of the morphologically complex forms. The stem *vatn* contains preaspiration in its full, independent form: [vǣhtn], preceded by a short vowel and followed by a stop. But in the genitive *vatns* and the compound *vatnslaus* ‘waterless’, the stop may disappear. The thing to note here is that if the stop is deleted, the preaspiration must disappear also; forms like \*[vǣhs] and \*[vǣhsløys] are ill-formed. This shows that the preaspiration cannot occur without the stop being present.

This can be interpreted so that the aspiration has to be licensed phonotactically by a stop, as shown in (11.14):

- (11.14) *hattur* /hǣh.tʏr/
- 

The subscript branching shows the phonetic association of the H element with the coda and the consonant, but the dashed arch above denotes the phonotactic licensing.

### 11.2.4 Related phenomena

Thus preaspiration in Icelandic is ontogenetically a displaced feature of a following stop, which has spread into the preceding segments, and its ‘segmenthood’ is related to its place in the coda, forming the consonantal part of the rhyme as a stress matrix. This position of the aspiration in the phonotactic buildup of syllables has the result that it may be lengthened by the accent, which, at times at least, makes it look like a separate segment. But it will be interesting to have a closer look at this coda position and the relation between preaspiration and other types of sound which occur in the same environments.

We have noted the historical connection between aspiration and the commonly occurring devoicing of sonorants and fricatives before hard stops, as shown in (11.15):

<sup>5</sup> In fact one argument against analysing preaspiration as a separate segment might be that if this were the case, one would expect it to occur freely in different kinds of surroundings, so that there would be huge unexplained gaps in its distribution. But the fact is that the sound only appears before stops and not before any other type of segment, e.g. not before /s/ and other fricatives, or nasals (as it does in Finnish, cf. Suomi et al. 2008: 28).

- (11.15) *heilar* [hei:l] ‘whole-FEM.PL’      *heilt* [heĩlt] ‘whole-NEUT’  
*hreina* [rei:n] ‘clean-ACC.FEM’      *hreint* [reĩnt] ‘clean-NEUT’  
*geyma* [cei:ma] ‘to store’      *geymt* [ceĩmt] ‘stored’  
*stóra* [stou:ra] ‘big-ACC.FEM’      *stórt* [stoũrt] ‘big-NEUT’  
*hægur* [hai:ʏʏr] ‘slow-MASC’      *hægt* [haixt] ‘slow-NEUT’

As already noted, this devoicing can be seen as part of the West Nordic consonant shift; the voicelessness of the postvocalic sonorant derives historically from the same fission or displacement of the H-element as in *hattur* [hãhtʏr] and *vatn* [vãhtn]. Thus the devoicing in *heilt* can be represented as in (11.16):

- (11.16)  $\begin{array}{c} \text{hei} \overset{\curvearrowright}{\text{t}} \\ \quad \quad \quad \vee \\ \quad \quad \quad \text{H} \end{array}$

Here, the dashed bow again represents the phonotactic licensing relation between the spread glottis characteristic, and the subscript association lines represent the phonetic or phonological spreading of the H-element.

Another phenomenon which creates similar conditions and relations between a voiceless coda and a following onset is the spirantization of stops, which commonly occurs before other stops and *s*, as in (11.17):

- (11.17) *djúpur* [tju:pyr] ‘deep’      *dýpka* [tifka] ‘make deeper’  
*taka* [ta:ka] ‘to take’      *taktu* [tʰaxty] ‘take-IMP’  
*hlaupa* [løy:pa] ‘to run’      *hlauptu* [lœyfty] ‘run-IMP’  
*skip* [sci:p] ‘ship’      *skips* [sci:ps] / [sci:fs] ‘ship-GEN’  
*ryk* [ri:k] ‘dust’      *ryksuga* [ri:ksyʏa] / [ri:ksyʏa] ‘vacuum cleaner’  
(literally: ‘dust-sucker’)

This spirantization which, when fully carried out, neutralizes the difference between a stop and a fricative, can result in alternation between a preaspirated stop and a fricative, as in (11.18):

- (11.18) *keppa* [cʰehpa] ‘to compete’ – *kepti* [cɛfti] ‘competed’  
*hnekkja* [ŋehca] ‘to break’ – *hnekti* [ŋexti] ‘broke’

Forms like *taktu* [tʰaxty] ‘take’ and *kepti* [cɛfti] can be seen to have an H-element placed similarly to the one in (11.16), that is associated with the coda consonant and also with the following plosive:

- (11.19)  $\begin{array}{cc} /tãxty/ & /cɛfti/ \\ \vee & \vee \\ \text{H} & \text{H} \end{array}$

As mentioned in section 11.1.2, one possible interpretation of the lack of aspiration on the following stop is to associate it with some sort of phonotactic suppression of the H-element in foot-internal position in the soft dialect. Assuming this to be the case, it might be suggested that this would indirectly lead to preaspiration being realized before the stop, that is in the coda. According to this the aspiration in *hattur* ‘hat’ would not be allowed to surface in the onset of the second syllable, and conversely,

the stopness would be bad for the coda, a plausible solution being to have the preaspiration forming the coda and the stop forming the onset, giving [hah.tʏʀ] etc.

But it is not the case that stops are altogether excluded from the coda in Icelandic; there are plenty of examples of stops in codas, as shown in (11.20):

- (11.20) *barni* [pat.nɪ] ‘child-DAT’, *sigla* [sɪk.la] ‘to sail’, *svigna* [sfɪk.na] ‘to bend’, *ofna* [ɔp.na] ‘ovens, radiators’, *allir* [at.lɪʀ] ‘all’, *fínn* [fɪt.n] ‘fine’, *tónn* [tɔutn] ‘tone’, *alla* [atla] ‘all’, *vagga* [vak:a] ([vak.ka]) ‘cradle’

One thing to note about the examples in (11.20) is that except for geminates as in *vagga*, the stop is followed by /l/ or /n/, and as the spelling shows these stops have developed from sonorants or fricatives.<sup>6</sup>

Given the right circumstances, preaspiration is thus one of many options available as a consonantal part of the rhyme as a stress matrix in Icelandic. And as such it was in fact listed in (9.43) in section 9.3.2 among the options for voiceless codas in Icelandic. The options for voiceless codas are repeated here as (11.21):

- (11.21) Voiceless sounds: /h, f, θ, x, s, p, t, k, ɭ, m̥, n̥, j̥, ɲ̥, ʀ̥/  
*hattur* [hahtʏʀ] ‘hat’, *hefta* [hefta] ‘to fetter’, *hleypti* [ɬeɪftɪ] ‘released’,  
*maðkur* [maθkʏʀ] ‘worm’, *lagt* [laxt] lay-PAST.PART, *reykti* [reɪktɪ] ‘smoked’,  
*vaxa* [vaxsa]/[vaksa] ‘to grow’,<sup>7</sup> *viska* [vɪska] ‘wisdom’, *nefna* [nepna] ‘to name’,  
*einn* [eɪtn] ‘one’, *vagn* [vakn] ‘wagon’, *velta* [veɭta] ‘to roll’, *hempa* [hemp̥a] ‘cape’,  
*henta* [heɳta] ‘to suit’, *skenkja* [sceɲ̥ka] ‘to give’, *banka* [paʊ̯ka] ‘to knock’,  
*verka* [veɾka] ‘to process’

As can be seen from the list, there are several other possibilities for voiceless codas, fricatives, sonorants, and stops among them. And it is clear that there is a connection between the fact that Icelandic preaspiration can form a coda and the fact that spirants, rather than stops, form more natural codas in voiceless environments before other stops or /s/. There is thus a tendency to exclude the co-occurrence of ʔ and H in the coda, which is why we have [hah.tʏʀ] rather than \*[ha<sup>h</sup>t.tʏʀ] and [hefta] rather than \*[hefta] in Modern Icelandic.<sup>8</sup>

<sup>6</sup> As mentioned in Chapter 2, there may be reason to make a historical connection between prestopping and preaspiration as a part of a shift in the postvocalic consonantism. In a push chain metaphor, prestopped *kalla* [katla] ‘to call’ may be seen as putting pressure on *katla* [ka(h)ɬla] ‘kettles-GEN’.

<sup>7</sup> The traditional Icelandic pronunciation has a velar fricative before /s/ in forms like *vaxa* [vaxsa] ‘to grow’ and *baksa* [paxsa] ‘to struggle’. As noted in section 9.4.3 this is unlike Faroese, which normally has stops before /s/ in *vaksa* [vaksa] ‘to grow’, and also before /t/ as in *loypti* [lɔɪptɪ] ‘ran’. And a relatively new variant pronunciation in Icelandic has [ks] instead of the traditional /xs/, i.e. [vaksa], [baksa] (cf. Ármason 2005a: 416–17).

<sup>8</sup> There is a slight complication here, as pointed out in section 6.5, fn 6. If we take the voiceless [ɬ] in *velta* [veɭta] ‘to roll’ to have ʔ, as is done in (6.18) on p. 113, and the voicelessness as being due to H, we would have a co-occurrence of these two elements in the coda, which might call for some reconsideration of the element analysis given in Chapter 6 of the Icelandic consonant system. As pointed out in fn 6 in Chapter 6, a possible solution to this might be to look on the voiceless lateral as a fricative, i.e. with h rather than ʔ as a source feature, which would then call for some reconsideration of the element analysis of the other sonorants and fricatives.

## 11.3 PREASPIRATION IN FAROESE

We have seen that in Faroese the fortis–lenis opposition is systematically realized in foot-initial position (i.e. before a stressed vowel), as in *peika* [p<sup>h</sup>ai:ka] ‘to point’ vs *bera* [pe:ɹa] ‘to carry’, *tosa* [t<sup>h</sup>ɔ:sa] ‘to speak’ vs *dalur* [tɛa:lɔɹ] ‘valley’. But when it comes to internal onsets, there is dialectal variation between ‘hard’ and ‘soft’ varieties, in that in forms like *pápi* ‘daddy’ and *bátur* ‘boat’ the internal stop is sometimes realized as unaspirated, that is [p<sup>h</sup>ɔɹ:pɹ], [pɔɹ:tɔɹ], but in the ‘hard’ varieties as having relatively weak preaspiration or ‘puff of air’: [pɔɹ:<sup>h</sup>tɔɹ], [p<sup>h</sup>ɔɹ:<sup>h</sup>pɹ], *apa* [ɛa:<sup>h</sup>pa] ‘ape’, *vakur* [vɛa:<sup>h</sup>kɔɹ] ‘beautiful’, *eta* [ɛɛ:<sup>h</sup>ta] ‘to eat’, *køka* [k<sup>h</sup>øɛ:<sup>h</sup>ka] ‘cake’, but only after non-high vowels (thus not in *sita* [si:ta] ‘to sit’, *ljótur* [lɔu:tɔɹ] ‘ugly’).

The status of aspiration in foot-internal onsets, that is after open syllables, in Faroese is thus somewhat precarious. But when it comes to closed syllables, those containing short vowels, preaspiration is regular before historical fortis plosives, as shown in (11.22):

- |         |   |  |
|---------|---|--|
| (11.22) | <i>lappi</i> [la <sup>h</sup> p:ɹ] ‘a rag’                  | <i>okkurt</i> [ɔ <sup>h</sup> k:ɔɹt] ‘something’                   |
|         | <i>flutti</i> [flʊ <sup>h</sup> t:ɹ] ‘moved’                | <i>deytt</i> [tɛ <sup>h</sup> t:ɹ] ‘dead-N’                        |
|         | <i>kettur</i> [tʃɛ <sup>h</sup> t:ɔɹ] ‘cats’                | <i>feitt</i> [fai <sup>h</sup> t:ɹ]/[fɔɹ <sup>h</sup> t:ɹ] ‘fat-M’ |
|         | <i>bakki</i> [pa <sup>h</sup> tʃ:ɹ] ‘steep slope’           | <i>vátt</i> [vɔ <sup>h</sup> t:ɹ] ‘wet-N’                          |
|         | <i>takka</i> [t <sup>h</sup> a <sup>h</sup> k:a] ‘to thank’ | <i>vatn</i> [va <sup>h</sup> tn] ‘water’                           |
|         | <i>hvítt</i> [kfvɔi <sup>h</sup> t:ɹ] ‘white-N’             | <i>tvætla</i> [t <sup>h</sup> va <sup>h</sup> tla] ‘to chat’       |
|         | <i>hoppa</i> [hɔ <sup>h</sup> p:a] ‘to hop’                 | <i>soknir</i> [sɔ <sup>h</sup> knɹɹ] ‘sunk-MASC.GEN.PL’            |
|         | <i>átta</i> [ɔ <sup>h</sup> t:a] ‘eight’                    | <i>opna</i> [ɔ <sup>h</sup> pna] ‘to open’                         |

Faroese also has an opposition between aspirated and unaspirated geminates, as shown in (11.23):

- |         |  |  |
|---------|--|--|
| (11.23) | <i>nakka</i> [na <sup>h</sup> k:a] ‘back of the head-ACC’        | <i>nagga</i> [nak:a] ‘to shiver’       |
|         | <i>hatt</i> [ha <sup>h</sup> t:ɹ] ‘hat’                          | <i>hædd</i> [hat:ɹ] ‘height, level’    |
|         | <i>vatn</i> [va <sup>h</sup> t.n] ‘water’                        | <i>oynni</i> [ɔitni], ‘the island-DAT’ |
|         | <i>tvætla</i> [t <sup>h</sup> va <sup>h</sup> t.la] ‘to twaddle’ | <i>kalla</i> [katla] ‘to call’         |

Preaspiration in Faroese has been taken to be shorter, and the following stop longer than in the corresponding Icelandic forms (Thráinsson et al. 2004: 47).<sup>9</sup> And, as shown in Schäfer and Árnason (2009), and as shown in Table 11.2 the preaspiration is consistently shorter than the closure in Faroese word forms like *hattin* ‘the hat’, *lappi* ‘rag’, *átta* ‘eight’, *bakki* ‘bench’ (eighteen token utterances for each word), from the stop being twice as long to being thirty per cent longer than the aspiration.<sup>10</sup>

<sup>9</sup> There may be exceptions to this, and there are dialectal differences regarding the distribution and character of preaspiration. Thus the traditional dialect of Suðuroy has rather prominent preaspiration on historical geminates after high vowels in forms like *hvítt* [khvɔi<sup>h</sup>t] / [khvɔi<sup>h</sup>t] ‘white-NEUT’, *deytt* [tɛi<sup>h</sup>t] / [tɛi<sup>h</sup>t] ‘dead-NEUT’ (Eivind Weyhe p.c.).

<sup>10</sup> In Helgason’s study (2002), preaspiration is measured relative to the preceding vowel, or the ratio of preaspiration over the duration of the vowel plus the preaspiration (Pr/VPr).

TABLE 11.2 The relative duration of preaspiration and a following stop in Faroese according to Schäfer and Árnason (2009, eighteen utterances for each form). The h/C ratio is consistently below 1.0, which means that, unlike in Icelandic (cf. Table 11.1), the duration of the preaspiration is shorter than that of the plosive. Although there is not a systematic comparison between accented and unaccented syllables, the comparison between the figures for *hatturinn* and accented *hattinn* shows a greater difference in duration in the stop than in the aspiration.

h/C ratio (Unaccented)	h/C ratio (Accented)
<i>hatturinn</i> ‘the hat’; h/t = 49/86 = 0.56	<i>hattinn</i> : ‘the hat-ACC’; h/t = 61/123 = 0.5
	<i>lappi</i> ‘rag’; h/p = 74/146 = 0.5
	<i>opna</i> ‘to open’; h/p = 48/75 = 0.63
	<i>átta</i> ‘eight’; h/t = 75/113 = 0.7
	<i>vatnið</i> ‘the water’; h/t = 90/123 = 0.74
	<i>bakki</i> ‘slope’; h/ʃ = 89/115 = 0.77
	<i>tvætla</i> ‘to chatter’; h/t = 80/122 = 0.65

The results for Faroese, summarized in Table 11.2, are markedly different from what we saw in Table 11.1 for Icelandic, and they seem to fully justify the practice of transcribing the forms phonetically as [ha<sup>h</sup>t:ɪn], [la<sup>h</sup>p:ɪ], etc. or to syllabify the stops as geminates: [ha<sup>h</sup>t.tɪn], [la<sup>h</sup>p.pɪ]. The h/C ratio is consistently below 1.0.

There is, as in Icelandic, a correlation between duration and accentuation, so that accented syllables are longer than unaccented ones. But unlike in Icelandic, the effect of the accent seems to be to lengthen the closure of the plosive, more than the aspiration. Thus in the unaccented form *hatturin* ‘the hat-NOM’ in utterances corresponding to *Hatturin* er HVÍTUR ‘the hat is white’, the average duration of the closure (in eighteen utterances) is 86.4 ms, which is shorter than for accented forms corresponding to *hattin* ‘the hat-ACC’ in utterances like *Eg havi mist HATTIN* ‘I have lost my hat’ (eighteen utterances). The average duration of the closure in the latter case, where *hattin* receives the nuclear accent, is 123.4 ms. The average duration of the aspiration also varies, but not as much. It is about 25 per cent longer when accented than when not accented (48.9 ms vs 61.1 ms), but the corresponding difference for the stops is about 42 per cent. It is thus clear that in Faroese rhymes or interludes consisting of vowels followed by preaspirated stops behave differently from those in Icelandic.

In accordance with this, the Faroese forms in (11.22) – *lappi* ‘a rag’, *flutti* ‘moved’, *takka* ‘to thank’, *bakki* ‘slope’, *kettur* ‘cats’, etc. – can be seen as having geminate, preaspirated fortis stops: [la<sup>h</sup>p.pɪ] [flʊ<sup>h</sup>t.tɪ] [t<sup>h</sup>a<sup>h</sup>k.ka] [pa<sup>h</sup>ʃ.ʃɪ], [ʃɛ<sup>h</sup>t.təɪ]. And correspondingly the monosyllabic forms *hvítt* ‘white-N’, *deytt* ‘dead-N’, etc. have final geminates, that is with the second member extrasyllabic: [kfoi<sup>h</sup>t.t], [tɛ<sup>h</sup>t.t], etc. And in forms like *opna* [ɔ<sup>h</sup>p.na] ‘to open’, *dripnar* [tri<sup>h</sup>p.naɪ] ‘killed-PL.FEM’, *vatnið* [va<sup>h</sup>t.nɪ] ‘the water’, *vakna* [va<sup>h</sup>k.na] ‘to wake up’, both the preaspiration and the closure belong to the coda. The constraint against the co-occurrence of stopness (i.e. ʔ) and

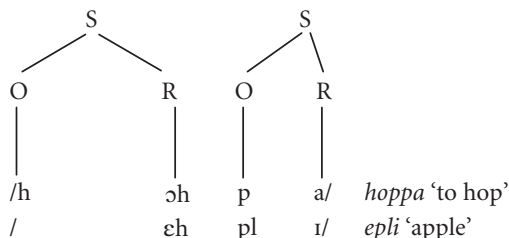
aspiration (i.e. H), which we have seen to have some effect in Icelandic, is thus not active in Faroese.

And another important difference worth recalling is that, unlike in Icelandic, vowel shortness is not a necessary condition for preaspiration to occur, since in Faroese preaspirated consonants can be internal onsets after open syllables, as in *bátur* 'boat' and similar examples. Both of these facts are consistent with the understanding that preaspiration is a segmental property of fortis segments in Faroese. It is another matter why the aspiration occurs before the closure, and not after it in forms like *bátur* [pɔɑ:.<sup>h</sup>tʊɪ] 'boat'. One interpretation of this might be that there is in Faroese a constraint against postaspiration occurring in internal onsets. Although it is not obvious what the phonetic motivation for such a constraint might be, it would mean that in some sense the aspiration in *bátur* [pɔɑ:.<sup>h</sup>tʊɪ] belongs to the second syllable, although its realization is made audible as an effect upon the preceding vowel. In fact, a more systematic investigation should be undertaken before categorical statements can be made about the phonetic and phonological character of the forms in question.

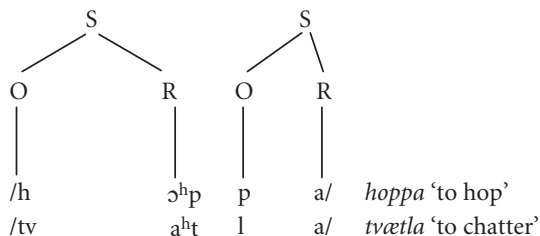
#### 11.4 REPRESENTING THE DIFFERENCE

The two aspects of the different status of aspiration in the two languages, namely that in Icelandic preaspiration is a 'full-blown segment' whereas in Faroese it is shorter, and that in the hard dialect of Faroese intervocalic aspiration occurs before the stop, both point to the fact that aspiration is a 'subsegmental entity' in Faroese, but that Icelandic preaspiration is syllabified as a coda. This is illustrated in (11.24):

(11.24) Icelandic:



Faroese:



In Icelandic, preaspiration is incorporated into the stress matrix, and becomes part of the rhyme in the first syllable, as in *hoppa* [hɔh.pa] ‘to hop’ and *epli* [ɛh.pli] ‘apple’. But in Faroese, preaspiration is invariably syllabified with its historical anchor. In the case of geminates and clusters, (following short vowels), this can be pictured as in *hoppa* [hɔ<sup>h</sup>p.pa] ‘to hop’, *tvætla* [t<sup>h</sup>va<sup>h</sup>t.la] ‘to chatter’.

This difference reflects differences in the way the two languages deal with the consequences of the consonant shift and the quantity shift. The diphthongization and strengthening of H or aspiration, as a part of the consonant shift, affects both languages, but the difference lies in the reorganization of syllabic structure which comes with the quantity shift.

### 11.5 PREASPIRATION IN MORPHOPHONEMICS

In both Icelandic and Faroese, preaspiration plays a role in morphophonemics, although in different ways. Examples showing alternation involving preaspiration in Icelandic is illustrated in (11.25) in inflection and derivation (belonging to Level I, cf. Section 12.9):

(11.25) Inflection:

*jötnunn* [jœœ:t<sup>h</sup>ɣn]/[jœœ:tɣn] ‘giant’ – *jötnar* [jœhtnar̥] (NOM.PL.)  
*bátur* [pau:t<sup>h</sup>ɣ̥]/[pau:tɣ̥] ‘boat’ – *bátnum* [pauhtɣ̥m] (DAT.SG.DEF.)  
*láta* [lau:t<sup>h</sup>a]/[lau:ta] ‘to let’ – *látu* [lauhtɣ] ‘let (Imperative SG.)’

Level I derivation:

*vaka* [va:k<sup>h</sup>a]/[va:ka] ‘awake’ – *vakna* [vahkna] ‘wake up’  
*sjúkur* [sju:k<sup>h</sup>ɣ̥] ‘sick’ – *sjúklingur* [sjuhkliŋkɣ̥] ‘patient’  
*meta* [mɛɛ:t<sup>h</sup>a] ‘evaluate’ – *metnaður* [mɛhtnaðɣ̥] ‘ambition’

Here the correspondence between forms with singleton plosive onsets after long vowels (aspirated in the hard variety and unaspirated in the soft variety) and forms with short vowels and preaspiration is regular. The patterning conforms to the conditioning described above that a short vowel followed by a fortis stop calls for preaspiration as a filler of the coda. Adding inflectional endings like *-num* and derivational suffixes like *-na* and *-lingur* to stems like *bát-*, *vak-* and *sjúk-* creates the conditions for preaspiration to occur, that is vowel shortness and a following plosive.

But, as already implied, this is limited to specific morphological surroundings, since in compound forms like those in (11.26) (belonging to Level II as described in Chapter 12), there is no shortening or preaspiration:

- (11.26) *hvik#lyndur* [k<sup>h</sup>vɪ:kliɳtɣ̥] ‘unreliable’  
*út#lendingur* [u:tɳlɛɳkɣ̥] (lit. out#lander) ‘foreigner’  
*hvít#leitur* [kfi:tɳlɛit<sup>h</sup>ɣ̥] ‘white looking’

Here the stems of the first parts of the compounds retain their vowel length (according to the postlexical version of the length rule, cf. section 10.2), and there



is no preaspiration. And the same result is seen in the case of postlexical cohesion as in (11.27):

- (11.27) a. *Ég lít nú* [li:tnu] *ekki vel út* 'I don't really look good'  
 I look now not well out  
 b. *Ég bíð nú* [pið.nu] *ekki lengi* 'I won't/don't really wait long'  
 I wait now not long

In (11.27a) the stop in *lít* belongs to the following onset without calling for a short vowel and preaspiration, although in (11.27b) the cohesion causes resyllabification and vowel shortness, including the voiced fricative in the coda, but before the stop we have a long vowel and no preaspiration.

Another type of manipulation of preaspiration in certain morphological conditions is seen in (11.28), where preaspiration is copied into forms which also create conditions for spirantization before /s/ (cf. section 11.2.4).

- (11.28) *dekkri* [tehkri] 'darker'    *dekkstur* [tɛxstʏr]/[tehkstʏr] 'darkest'  
*taka* [tʰa:ka] 'take'    *taktu* [tʰaxtʏ]/[tʰaktʏ] 'you take-IMP'

Here, beside phonologically 'correct' forms like [tɛxstʏr] and [tʰaxtʏ], with frication before /s/, the preaspiration and the plosive in *dekkri* [tehkri] and *taka* [tʰa:ka] can be copied into the forms *dekkstur* and *taktu*. And similarly, a genitive like *stakks* [stahks] 'jacket-GEN' copies the phonological shape of the nominative *stakkur* [stahkʏr] 'jacket-NOM'.<sup>11</sup>

Given the conclusion that preaspiration in Faroese is a property of segments and not an independent phonological entity, there is no reason to expect it to have any independent function in morphophonemics. But as shown by many of the forms used to illustrate other patterns, for example the open vs closed syllable relation, many paradigms have alternation between aspirated and unaspirated plosives, as shown in (11.29).

- (11.29) *feitur* [fai:tʊɹ]/[fɔi:tʊɹ] 'fat-M'    *feitt* [faiʰt:]/[fɔiʰt:] 'fat-M'  
*hvítur* [kʰʊi:tʊɹ] 'white-M'    *hvítt* [kʰʊiʰt:] 'white-N'  
*vátur* [vɔa:(ʰ)tʊɹ]/[vɑ:(ʰ)tʊɹ] 'wet-M'    *vátt* [vɔʰt:] 'wet-N'

In the speech of those who have preaspiration after low vowels in open syllables, the aspiration appears in both the masculine form *vátur* and the neuter form *vátt*, making the opposition that of a long vs a short stop, whereas for speakers of the 'soft' variety, the alternation also involves preaspiration, and after short vowels there is an opposition between aspirated and unaspirated geminates: *nakka* [naʰk:a] 'back of the head-ACC' vs *nagga* [nak:a] 'to shiver'; *hædd* [hat:] 'height, level' vs *hatt* [haʰt:] 'hat'.

<sup>11</sup> But vowel length and syllabification can be handled independently of preaspiration. Thus a word like *úttekt* 'evaluation' can have forms like *út#tekt* [u:t.tʰext] or [ut.tʰext] (\*[uhtext]) with a short or a long vowel and no preaspiration, reflecting the fact that vowel shortness and a following stop do not necessarily imply preaspiration. But a form like *notkun* 'use' [nɔtkʏn] or [nɔhtkʏn] (cf. *nota* 'to use') shows that preaspiration can be placed after a short vowel and before a stop in derived forms.

There are also paradigms like *opin* [oɔ:(<sup>h</sup>)pɪn] ‘open’, *opna* [ɔ<sup>h</sup>p.na] ‘to open’, where the closed syllable form has preaspiration, whereas in the open syllable form there is a dialect difference. In forms like *deyður* [teijʊɪ] ‘dead-M’ vs *deytt* [tɛ<sup>h</sup>t:] ‘dead-N’ the correspondence is more complex because there is no stop in the masculine forms. Furthermore, as shown by paradigms like *fúlur* [fðu:lʊɪ]/[fɪu:lʊɪ] ‘foul-M’ – *fúlt* [fʏl̥t] ‘foul-M’, *tómur* [t<sup>h</sup>ɔu:mʊɪ]/[t<sup>h</sup>œu:mʊɪ] ‘empty-M’ – *tómt* [t<sup>h</sup>œm̥t]/[t<sup>h</sup>ɔm̥t] ‘empty-N’, *gulur* [ku:lʊɪ] ‘yellow’ – *gult* [kʊl̥t] ‘yellow-N’, voiceless sonorants, which have a historical connection with aspiration in fortis plosives in Faroese as in Icelandic, alternate with voiced sonorants.

## ALLOMORPHY, MORPHOPHONEMICS, AND PHONOLOGICAL LEVELS

### 12.1 INTRODUCTION

This chapter focuses on Modern Icelandic and Faroese morphophonemics with the purpose of relating the lexicalized morphological and morphophonemic patterns to the postlexical phonological patterns of the two languages. Following Trubetzkoy (1939: 269–70), the term ‘morphophonemic’ will here be used rather broadly, referring to three types of generalizations or theorizing, that is regarding: (1) the phonological structure of morphemes; (2) the types of conditioned changes which morphemes undergo in morphological contexts; and (3) the sound alternations, which have a morphological function.<sup>1</sup> Recognizing the lack of clarity in detail, for example in distinguishing between phonological processes (*phonologische Veränderungen*) and sound alternations (*Lautwechselreihen*), this seems to be a useful characterization of the problems. In many cases the allomorphy stems from historical laws such as umlaut and ablaut, but in other cases, the causes of the allomorphy are more recent and some of them can be characterized as genuine ‘active’ phonetic processes or constraints as parts of the phonological patterning of the current languages.

What lies behind the following account is the supposition that phonological or morphophonemic regularities which derive from older historical ‘events’ and phonetic laws that are no longer active as such in the postlexical phonology are still valid synchronically as generalizations about word phonology and lexicalized phonological structure. But it is also important to distinguish between the phonological properties of these laws and their eventual use as exponents of morphological categories, which can be varied. Thus, for example, relations due to historical u-umlaut and i-umlaut, which we will discuss further below, show up in both inflectional paradigms like *köttur* [k<sup>h</sup>œhtʏr] ‘cat’ – *kattar* [k<sup>h</sup>ahtar] ‘cat-GEN’ – *ketti* [k<sup>h</sup>ɛhti] ‘cat-DAT’, and derivational contexts like *gras* [kra:s] ‘grass’ – *grösugur* [krœ:sʏʏʏr] ‘grassy’, *gladur* [kla:ðʏr] ‘happy’ – *gleði* [klɛ:ði] ‘happiness’, and in some cases there is no reason to assign any such morphological function to formal relations conforming to the umlaut patterns. It could thus be maintained that there is a phonological relation between, for example, /æ/ and a following /ɣ/ in the morphologically simplex *höfuð* [hœ:vʏθ] ‘head’, which is phonologically or phonotactically speaking the same as the

<sup>1</sup> ‘1. Die Lehre von der phonologischen Struktur der Morpheme; 2. Die Lehre von den kombinatorischen Lautveränderungen, welche die Morpheme in den Morphemverbindungen erleiden; 3. Die Lehre von den Lautwechselreihen, die eine morphologische Funktion erfüllen.’

relationship in alternating forms like *sögu* ‘story ACC.SG’ (cf. NOM.SG *saga*) or *fögur* [fœ̃:ʏʏ̥] ‘pretty-NOM.SG.FEM’ (cf. *fagur* ‘pretty-NOM.SG.MASC’ and *fagra* ‘pretty-ACC.SG.FEM’). We can, then, describe these principles as lexicalized phonological patterns, independently of their morphological function. Thus the form of the underived word *höfuð* ‘head’ conforms to the same phonotactic law of u-umlaut, which calls for a rounded /œ/ before a following /ʏ/, in the same way as the vocalic pattern of *köllum* ‘we call’ from the verb *kalla* ‘to call’ shows the regular replacement of /œ/ for /a/ in the verbal stem when followed by an ending containing /ʏ/.<sup>2</sup>

## 12.2 LEXICAL AND POSTLEXICAL RELATIONS IN PARADIGMS

It is obviously a matter of debate to what extent the history should be included in the synchronic description in the form of phonological rules or constraints which function as components in the modern linguistic system. The problem was crystallized in the ‘abstractness problem’ in generative phonology, where many of the historical processes behind the synchronic regularities were included in the descriptions (see e.g. Anderson 1974 and Rögnvaldsson 1993). But such proposals create the problem of how to limit the power of the model in explaining away irregularities and opacity. And although the abstractness problem is not one of the hottest topics in current phonological debate, this does not mean that it has ever been solved.

As a preliminary illustration of the interplay of various types of sound alternations in MI, some of which have their origin in ancient patterns like umlaut, and others in some younger processes or sound laws, we can use the noun paradigms in (12.1):

(12.1)	SG	PL
NOM	<i>dagur</i> [ta:ʏʏ̥] ‘day’	<i> dagar</i> [ta:ʏḁ] ‘days’
ACC	<i>dag</i> [ta:x]	<i>daga</i> [ta:ʏa]
DAT	<i>degi</i> [tei.jɪ]/[tej.jɪ]	<i>dögum</i> [tœ:ʏym]
GEN	<i>dags</i> [taxs]	<i>daga</i> [ta:ʏa]
NOM	<i>barn</i> [pa(r)t̪̥] ‘child’	<i>börn</i> [pœ(r)t̪̥] ‘children’
ACC	<i>barn</i> [pa(r)t̪̥]	<i>börn</i> [pœ(r)t̪̥]
DAT	<i>barni</i> [pa(r)tnɪ]	<i>börnum</i> [pœ(r)tnym]
GEN	<i>barns</i> [pa(r)tns]/[pas:]	<i>barna</i> [pa(r)t̪na]
NOM	<i>ketill</i> [c <sup>h</sup> œ̃:tɪt̪̥] ‘kettle’	<i>katlar</i> [k <sup>h</sup> ahtlḁ] ‘kettles’
ACC	<i>ketil</i> [c <sup>h</sup> œ̃:tɪ]	<i>katlar</i> [k <sup>h</sup> ahtlḁ]
DAT	<i>katli</i> [k <sup>h</sup> ahtlɪ]	<i>kötlum</i> [k <sup>h</sup> œhtlym]
GEN	<i>ketils</i> [chẽ:tɪls]	<i>katla</i> [kahtla]

<sup>2</sup> One way of putting this might be to say that the /œ/ in the first syllable is phonotactically licensed by the following /ʏ/, as it was suggested in section 11.2.2 that Icelandic preaspiration as a coda must be licensed by a following stop (its historical place of origin). But this relation is not absolute, since there are exceptions going both ways, as shown in section 12.3.3 below.

The alternations *dagur* [ta:ɣʏɾ] – *dögum* [tœ:ɣʏm], *barn* [patn] – *börn* [pœtɳ] – *börnum* [pœtnʏm], and *katlar* [k<sup>h</sup>æhtlaɾ] – *kötum* [k<sup>h</sup>œhtlym] illustrate the typical workings of *u*-umlaut in allomorphy. Proposals have been made (e.g. Rongvaldsson 1981) to analyse *u*-umlaut as an active rule, something like a *-æ / \_ɣ*, that is a substitution of /a/ by /æ/, triggered by a following /ɣ/ (the front rounded modern reflex of original back rounded /u/). But as we shall see in section 12.3.3 below, some drastic measures would have to be taken before this can be analysed as a true statement of pure sound structure. In the examples in (12.1) it is only in the DAT.PL *dögum* and *kötum* where the relation is transparent. In the NOM.SG *dagur*, the ending has an /ɣ/ which does not trigger rounding, and in the plural *börn* of *barn* we have *u*-umlaut without a visible trigger.

Another ancient historical change, *i*-umlaut, is reflected in the allomorphy *dagur* [ta:ɣʏɾ] ‘day-NOM.SG’ – *degi* [teiji] ‘day-DAT.SG’, where it may look like there is a fronting of /a/ before /i/ in the ending. And similarly in the alternation *ketill* ‘kettle-SG’ – *katlar* ‘kettle-PL’ it might look as if there is a connection between fronting of the stem vowel and an /i/ in the following syllable in the singular. But as can be seen in (12.1), there is no fronting in *barni* ‘child-DAT.SG’, nor in *katli* ‘kettle-DAT.SG.’, once again making the rule quite opaque.

A further characteristic, to be noted in connection with the inflection of *dagur*, is the diphthong in the dative *degi* [teiji]. The historical source of the phonological structure characterizing this form has been described as diphthongization, which also took place (in most dialect areas) in forms like *hagi* [hæiji] ‘field’, *bogi* [pœiji] ‘bow’, and *hugi* [hviiji] ‘mind’ (cf. section 4.1.5). But as was noted in section 9.5, the modern phonological outputs corresponding to *degi*, *hagi*, and *bogi* are perhaps most naturally interpreted as consisting of short vowels followed by geminate glides: [tēj.ji], [hăj.ji], [pøj.ji].

Another source of allomorphy in the paradigms in (12.1) is related to length and syllabification, which in turn relates to preaspiration. In *dagur* [ta:ɣʏɾ] ‘day-NOM’ and *dags* [taxs] ‘day-GEN’, there is an alternation between a long and a short vowel, conforming to the length rule (cf. section 10.2), the latter form having a short vowel and a closed syllable. The same is true of *ketill* [c<sup>h</sup>ɛ:tɪt̚] ‘kettle-NOM’ vs *katli* [k<sup>h</sup>æhtli] ‘kettle-DAT’, and in the latter case, preaspiration appears before the stop.

The paradigm of *ketill* ‘kettle’ thus also illustrates the function of preaspiration, discussed in the last chapter, showing the licensing of [h] after a short vowel and before a stop in the dative form *katli* [k<sup>h</sup>æhtli] and the nominative plural *katlar* [k<sup>h</sup>æhtlaɾ]. And another instance of consonantal alternation can be seen in the second syllable of *ketill* ‘kettle-NOM’ [c<sup>h</sup>ɛ:tɪt̚] – *ketil* ‘kettle-ACC’ [c<sup>h</sup>ɛ:tɪ], where the double vs single spelling *ll* vs *l* represents an alternation between a stop-sonorant cluster [tl] and a single lateral (which is in fact tends to be devoiced in word final position: [ɭ]). The /t/ vs /l/ alternation has its origin in the prestopping of long sonorants described in section 2.9 and, as we will see in section 12.5 below, a similar alternation is to be found in a paradigm like *hóll* ‘hill’ [hoult] – *hólar* ‘hills’ [hou:laɾ] and *steinn* ‘stone’ [steitɳ] – *steinar* ‘stones’ [stei:naɾ].

Yet another source of consonantal allomorphy shown in (12.1) is palatalization. In the paradigm for *dagur* ‘day’, this comes out as alternation between velar [ɣ] in the

nominative [ta:ɣʏɾ] and [j] before front /i/ in the dative *degi* [teijɪ]/[tej.jɪ]; in the latter case this ‘triggers’ diphthongization, raising the issue of the gemination of glides. In the paradigm for *ketill* ‘kettle’, we have a palatal stop in the nominative [c<sup>h</sup>ee:tɪtɪ], compared to a velar one in the dative *katli* [k<sup>h</sup>ahtɪ]. Here the palatalizing environment is also a front vowel /e/. But we must note that frontness is not a sufficient condition, since no palatalization takes place if the front vowel is rounded, as in *kunna* [k<sup>h</sup>ʏn:a] ‘to know’ or *köttur* [k<sup>h</sup>œhtʏɾ] ‘cat’. (Cf. section 6.2.2).

The last phonological law to be mentioned in connection with the paradigms in (12.1) is devoicing in sonorants and fricatives. In the paradigm *dagur* [ta:ɣʏɾ] – *dag* [ta:x] and *dags* [taxs] we see an alternation between voiced [ɣ] and voiceless [x]. But these two instances of devoicing differ in an interesting way. In the genitive, devoicing seems to be connected to a following voiceless obstruent, that is /s/, and a similar effect is at work in paradigms like *hægur* [hai:ɣʏɾ] ‘slow-MASC’ – *hægt* [haixt] ‘slow-NEUT’. A similar devoicing can affect sonorants in alternations like *linur* [li:nʏɾ] ‘soft’ vs *lint* [liɲt] ‘soft-NEUT’ and *sælar* [sai:laɾ] ‘happy-FEM.PL’ vs *sælt* [saiɭt] ‘happy-NEUT’.

The devoicing shown in the accusative form *dag* [ta:x], although it has similar phonetic consequences, is part of a different general phenomenon, which is final devoicing. As implied by phonetic transcription given throughout and as further described in section 14.5.2, this is a pervasive postlexical effect and takes place before a pause. This final devoicing can also affect final sonorants, for example /r/ in *dagur* [ta:ɣʏɾ] ‘day-NOM’ and /l/ in *ketil* [c<sup>h</sup>ɛ:tiɭ] ‘kettle-ACC’, but the results are not consistent.

This is thus a postlexical phenomenon, which is sensitive to conditions in phonological phrases, as can be seen in (12.2):

- (12.2) a. *Jón er á bílí dag*  
           [jounɛrau'pi:litax]  
           John is on car to-day  
           ‘John’s driving to-day’  
       b. *Jón er á bíl*  
           [jounɛrau'pi:]  
           John is on car  
           ‘John’s driving’

In (12.2a) the final devoicing only affects the /ɣ/ in *dag* ‘day’, but has no effect on the /l/ in *bíl* ‘car’, but in (12.2b), the final [ɪ] is devoiced, that is when the word is uttered in isolation. The devoicing before /s/ or /t/ does not apply in the same manner in connected speech, as shown by the examples in (12.3):

- (12.3) a. *Ég samdi lag til þín*  
           [ɛsamtɪ'laytɪlðɪn] / \*[... 'laxtɪlðɪn]  
           I composed a song to you  
           ‘I wrote you a song’

- b. *Ég sendi bíl til þín*  
 [jɛsɛntɪ'pɪlɪðɪn] / \*[pɪlɪðɪn]  
 I send car to you  
 'I'll send you a car'

The devoicing of /ɣ/ and /l/ before /t/ in inflections like *hægt* and *heilt* is categorical (except as a very rare dialect feature) and in no way sensitive to postlexical surroundings, whereas the different function of final devoicing and its sensitivity to phrasal conditions in (12.2) shows that this is a postlexical phenomenon.

In the rest of this chapter it will be shown that many of the patterns in allomorphy are fossilized historical rules or constraints restricted to occur under certain morphological conditions, but in other cases the allomorphy is caused by more recent and phonologically natural laws, which belong in the postlexical, morphologically unrestricted part of the phonology.

### 12.3 VOCALIC PATTERNS IN ICELANDIC

#### 12.3.1 *The ablaut series*

Six series, historically related to Indo-European ablaut, have been assumed to be systematically 'active' in Icelandic in defining strong verbal paradigms. And in some cases, they interact with other sound laws and thus contribute to the rather intricate web of vocalic sound correspondences between related word forms.

The series characterized by the first class of strong verbs involves an alternation between what is represented in the spelling as *í* – *ei* – *i*, as shown in (12.4):

- (12.4) *bíta* [pi:ta] 'to bite' – *beit* [pei:t] 'bit-SG' – *bitum* [pi:tʏm] 'bit-1.PL'  
*skína* [sci:na] 'to shine' – *skein* [scei:n] 'shone-SG' – *skinum* [sci:nʏm] 'shone-1.PL'

The same pattern also appears in less closely related forms or lexemes like *litur* [li:tʏr] 'colour' – *leiti* [lei:ti] 'hill, vantage point', *feitur* [fei:tʏr] 'fat-ADJ' – *fita* [fi:ta] 'fat-NOUN', *heitur* [hei:tʏr] 'hot' – *hiti* [hi:ti] 'heat', and *sleita* [stlei:ta] 'deviousness, volatility' (cf. *sleitulaust* 'incessantly') – *slitróttur* [stlitróhtʏr] 'intermittent'.

Another series, *jól/jú/ú* – *au* – *u* – *o*, shows up in verbs belonging to the second class of strong verbs, as shown in (12.5):

- (12.5) *bjóða* [pjou:ða] 'to invite' – *baud* [pœy:θ] 'invited-SG' – *buðum* [pʏ:ðʏm] 'invited-1.PL' – *boðið* [poɔ:ðɪθ] 'invite-PAST.PART'  
*fjúka* [fju:ka] 'be blown away, fly' – *fauk* [fœy:k] 'flew-SG' – *fukum* [fʏ:kʏm] 'flew-1.PL' – *fokið* [foɔ:cɪθ] 'blow away-PAST.PART'  
*súpa* [su:pa] 'sip, drink' – *saup* [sœy:p] 'drank-SG' – *supum* [sʏ:pʏm] 'drank-1.PL' – *sopið* [soɔ:pɪθ] 'drink-PAST.PART'

This series can also be found in related word pairs and triplets like: *fraud* [frøyθ] 'sorbet' – *froða* [frɔ:ða] 'foam'; *baugur* [pøy:ɣʏr] 'ring' – *bugur* [pʏ:ɣʏr]

'bend' – *boga* [poɔ:ɣa] 'bow-ACC', and *rauður* [røɣ:ðɣʁ] 'red' – *rjóður* [rjou:ðɣʁ] 'blushing' – *roði* [roɔ:ði] 'redness', *rjúpa* [rju:pa] 'ptarmigan' – *ropa* [roɔ:pa] 'to burp' – *raup* [røɣ:p] 'bragging'.

The third ablaut series helps to define the paradigm of verbs like the ones listed in (12.6):

- (12.6) *finna* [fin:a] 'to find' – *fann* [fan:] 'found-SG' – *fundu* [fɣntɣ] 'found-PL' – *fundið* [fɣntiθ] 'find-PAST.PART'  
*bresta* [prɛsta] 'break' – *brast* [prast] 'broke-SG' – *brustu* [prɣstɣ] 'broke-PL' – *brostið* [prɔstiθ] 'break-PAST.PART'  
*bjarga* [pjarka] 'to save' – *björgum* [pjærkɣm] 'save-1.PL.PRES' – *barg* [park] 'saved-SG' – *burgum* [pɣrkɣm] 'saved-PL' – *borgið* [pœriθ] 'save-PAST.PART'<sup>3</sup>

In the verb *bjarga* 'to save', the ablaut series interacts with breaking (cf. section 12.3.3 below). Similar patterns appear in relations like *gjörð* [cœrθ] 'girdle' – *garður* [karðɣʁ] 'garden' and *svartur* [sfartɣʁ] 'black' – *surtur* [syrtɣʁ] 'the black one' – *sorti* [sœrti] 'blackness'.

The fourth ablaut series can be exemplified by verbs like the ones in (12.7):

- (12.7) *stela* [stee:la] 'to steal' – *stal* [sta:l] 'stole' – *stálu* [stau:lɣ] 'stole-PL' – *stolinn* [stœ:lɪn] 'stolen'  
*nema* [neɛ:ma] 'take' – *nam* [na:m] 'took' – *námu* [nau:mɣ] 'took-PL' – *numinn* [nɣ:min] 'taken'

Further instances of ablaut relations are seen in verbs like *gefa* [ceɛ:va] – *gaf* [ka:f] – *gáfu* [kau:vɣ] – *gefið* [ceɛviθ] 'to give' and *geta* [ceɛ:ta] – *gat* [ka:t] – *gátu* [kau:tɣ] – *getið* [ceɛ:tθ] 'to be able, to guess', belonging to the fifth class of strong verbs. The /au/ vocalism (*á* in the spelling) can also be found in nouns like *gáfa* 'gift, talent' and *gáta* 'riddle'. Still another pattern shows up in verbs like *fara* [fa:ra] – *fór* [fou:ʁ] – *fóru* [fou:rɣ] – *farið* [fa:rɪθ] 'to go' and *skafa* [ska:va] – *skóf* [skou:f] – *skófu* [skou:vɣ] – *skafið* [ska:viθ] 'to shave, to scrape'. Word-formatational relations utilizing this series are for example *bati* [pa:tɪ] 'recovery' – *bót* [pou:t] 'addition, compensation', *aðal* [a:ðaɭ] 'main-, important' – *óðal* [ou:ðaɭ] 'estate'. (For more thorough accounts of the ablaut patterns and their relations in Modern Icelandic see e.g. Einarsson 1945; Kress 1982; and for Old Icelandic, see Iversen 1973; Noreen 1970.)

### 12.3.2 I-umlaut

Typical patterns of alternation in MI deriving from historical i-umlaut, which was basically a fronting of vowels before [i] in the following syllable, are shown in (12.8). (The modern correspondents of the vowels which were affected by the umlaut are

<sup>3</sup> This is a rather archaic paradigm for this verb; a more common pattern is a 'weak one' which has the preterite form *bjargaði*.



listed as ‘base vowels’, and the reflexes of the results of the umlaut are called ‘umlaut vowels’):

(12.8)	Base vowels	Umlaut vowels
	<i>a</i> /a/, <i>o</i> /ɔ/, <i>ö</i> /œ/	<i>e</i> /ɛ/
	<i>á</i> /au/ <i>ó</i> /ou/	<i>æ</i> /ai/
	<i>u</i> /ʊ/ <i>o</i> /ɔ/	<i>y</i> /i/
	<i>ú</i> /u/ <i>jú</i> /ju/ <i>jó</i> /jou/	<i>ý</i> /i/
	<i>au</i> /œy/	<i>ey</i> /ei/

In most cases the phonetic character of the original sound change has been obscured by later development. Thus, for example in the correspondence between *á* [au] and *ó* [ou] as ‘base vowels’ and *æ* [ai] as an ‘umlaut vowel’, secondary sound development has drastically changed the vowel qualities involved. The original relation in Old Icelandic was between back vowels, rounded [ɔ:] and unrounded [a:] and front vowels, respectively rounded [ø:] and unrounded [æ]. But the delabialization of [ø:] and later diphthongization has given modern [ai] for the umlaut vowel in both cases, and the diphthongization of old [ɔ:] and [a:] has given respectively [ou] and [au] for the base vowels. The correspondences are, however, regular and productive to some extent, as can be seen from correspondences in inflections like *láta* [lau:ta] ‘to let’ – *lætur* [lai:tyr] ‘let-PRES.SG’, *súpa* [su:pa] ‘to sip’ – *sýpur* [si:pyr] ‘sip-PRES.SG’; *átti* [auhti] ‘own-PAST.IND’ – *ætti* [aihti] ‘own-PAST.SUBJ’ (from the verb *eiga* ‘to own’); and *fór* [fou:r] ‘go-PAST.IND’ – *færi* [fai:ri] ‘go.-PAST.SUBJ’.

A typical paradigm showing i-umlaut alternation is seen in the MI weak verbs corresponding to the so-called ‘*ja*-lass’, as shown in (12.9), where the present stem form has an umlaut vowel, with the base vowel appearing in the past form:

(12.9)	PRESENT	PRETERITE
	<i>telja</i> [t <sup>h</sup> ɛlja]	<i>taldi</i> [t <sup>h</sup> altɪ] ‘to count’
	<i>fremja</i> [frɛmja]	<i>framdi</i> [framti] ‘to perform, commit’
	<i>krefja</i> [k <sup>h</sup> rɛvja]	<i>krafði</i> [k <sup>h</sup> ravði] ‘to demand’
	<i>flytja</i> [flɪ:tja]	<i>flutti</i> [flɪhti] ‘to move’
	<i>yrkja</i> [ɪrca]	<i>orti</i> [ɔrtɪ] ‘to compose’
	<i>sækja</i> [sai:ca]	<i>sótti</i> [souhti] ‘to fetch’

There are also several examples of a productive interplay of i-umlaut and ablaut in the inflection of strong verbs, for example in present tense singular forms like the ones in (12.10):

(12.10)	1.SG	3.PL
	<i>býð</i> [pi:θ]	<i>bjóða</i> [pjou:ða] ‘to bid’
	<i>flyk</i> [fi:k]	<i>flyka</i> [fju:ka] ‘to fly’
	<i>sýp</i> [si:p]	<i>súpa</i> [su:pa] ‘to sip’
	<i>læt</i> [lai:t]	<i>láta</i> [lau:ta] ‘to let’
	<i>tek</i> [teɛ:k]	<i>taka</i> [t <sup>h</sup> a:ka] ‘to take’

Another fairly regular correspondence is seen in the past subjunctive forms of strong verbs. For these verbs the preterite subjunctive form has an i-umlaut sound corresponding to a base vowel which appears in the preterite plural indicative of the same verbs. This is illustrated in (12.11):

(12.11)	PRES.SUBJ	PRET.SUBJ	PRET.IND.PL
	<i>bjóði</i> [pjou:ðɪ]	<i>byði</i> [pɪ:ðɪ]	<i>buðu</i> [py:ðy] ‘offer’
	<i>súpi</i> [su:pɪ]	<i>sypi</i> [sɪ:pɪ]	<i>supu</i> [sy:pɪ] ‘sip’
	<i>finni</i> [fɪn:i]	<i>fyndi</i> [fɪntɪ]	<i>fundu</i> [fɪnty] ‘find’
	<i>bresti</i> [prɛstɪ]	<i>brysti</i> [prɪstɪ]	<i>brustu</i> [prystɪ] ‘break’
	<i>eiga</i> [ei:ɣa]	<i>ætti</i> [aihtɪ]	<i>áttu</i> [auhtɪ] ‘own’
	<i>fara</i> [fa:ra]	<i>færi</i> [fai:ri]	<i>fóru</i> [fou:ry] ‘go’

Fairly regular umlaut relations can also show up in comparative paradigms in adjectives, as shown in (12.12a) and in noun inflection, like the ones in (12.12b):

(12.12)	POS	COMP	SUPERL
a.	<i>stór</i> [stou:r̥] ‘big’	<i>stærri</i> [stairɪ]	<i>stærstur</i> [staistyr̥]
	<i>stuttur</i> [styhtyr̥] ‘short’	<i>styttri</i> [stihtrɪ]	<i>stystur</i> [stistyr̥]
	<i>djúpur</i> [tju:pyr̥] ‘deep’	<i>dýpri</i> [ti:prɪ]	<i>dýpstur</i> [tifstyr̥]
b.	<i>nótt</i> [nouht] ‘night-SG’	<i>nætur</i> [nai:tyr̥] ‘nights’	
	<i>bók</i> [pou:k] ‘book’	<i>bækur</i> [pai:kyr̥] ‘book’	
	<i>sátt</i> [sauht] ‘agreement’	<i>sættir</i> [saihtɪr̥] ‘agreements’	

In addition to these inflectional paradigms, there are many examples of derivational relations showing i-umlaut alternations of a similar sort:

(12.13)	<i>svartur</i> [svartyr̥] ‘black’ – <i>sverta</i> [svɛr̥ta] ‘to make black’ – <i>svertingi</i> [svɛr̥tɪŋci] ‘negro’
	<i>fagur</i> [fa:ɣyr̥] ‘beautiful’ – <i>fegra</i> [fɛɣra] ‘to beautify’ – <i>fegurð</i> [fɛɛ:ɣyr̥θ] ‘beauty’
	<i>dómur</i> [tou:myr̥] ‘judgement’ – <i>dæma</i> [tai:ma] ‘to judge’
	<i>hráki</i> [rau:ci] ‘spit, snout’ – <i>hrækja</i> [r̥ai:ca] ‘to spit’

It can be seen from the examples above that, more often than not, there is no visible ‘trigger’ of the umlaut. However, the patterns are fairly regular, and in some paradigms the relations are transparent so that an /i/ appears in a following syllable, as for example in *svartur* ‘black’ – *svertingi* ‘negro’, and in nouns like *ketill* ‘kettle’ (cf. 12.1) the umlaut vowel appears before an /i/ in the nominative, which is the second of a disyllabic stem, whereas the dative ending in *katli* does not cause umlaut.

A number of word forms owe parts of the shape of their invariant phonological characteristics to i-umlaut type constraints similar to the one in *ketill* ‘kettle-NOM’. Thus words like *ferill* ‘path’, *þyrill* ‘whipping stick’, *hækil* ‘heel-bone’ conform to the pattern of i-umlaut, with historically front vowels before an /i/ in the second syllable. And conversely the non-existence of forms like \**farill*, \**þorill*, and \**hákill* derives from the fact that the suffix -*il*- historically triggered fronting of a preceding stem vowel. However, in these words the umlaut vocalism has been generalized into the whole paradigm: *ferlar* ‘paths’, *þyrlar* ‘whipping sticks’, *hæklar* ‘heels’.

As mentioned above, the original sound correspondences have in most instances taken on a new form due to later development. Thus the original fronting effects of the i-umlaut gave a front rounded [ø], in Old Icelandic *kømr* ‘come-PRES.SG’, vs *koma* ‘to come’, and similarly for *troða* ‘to tread’ – *trøðr* ‘treads’, *sofa* ‘to sleep’ – *søfr* ‘sleeps’, and *ofar* ‘upper-ADV’ – *øfri* ‘upper-ADJ’. But due to later delabialization, the corresponding modern paradigms show alternation between rounded and unrounded vowels *o* [ɔ] and *e* [ɛ], as in (12.14):

- (12.14) *koma* [koɔ:ma] ‘to come’ – *kemur* [ceɛ:myr] ‘comes’  
*sofa* [soɔ:fa] ‘to sleep’ – *sefur* [see:fyɾ] ‘sleeps’  
*troða* [tʰroc:ða] ‘to tread’ – *treður* [tʰree:ðyr] ‘treads’  
*ofar* [oɔ:vaɾ] ‘higher up-ADV’ – *efri* [ɛvri] ‘upper-ADJ’

In other similar paradigms we can have an alternation between two front vowels *ö* [œ] and *e* [ɛ], making rounding the only difference between the base and the umlaut vowel:

- (12.15) *sökkva* [stœhkva] ‘sink’ – *stekkur* [stɛhkɥɾ] ‘sinks’  
*höggva* [hœkva] ‘hew’ – *heggur* [hek:ɥɾ] ‘hews’  
*dökkur* [tœhkɥɾ] ‘dark’ – *dekkri* [tehkri] ‘darker’  
*snöggur* [stnœk:ɥɾ] ‘quick’ – *sneggri* [stnekri] ‘quicker’  
*þröngur* [θrœɣɣkɥɾ] ‘narrow’ – *þrengri* [θreɣɣkri] ‘narrower’

In these paradigms, the original fronting correlation (between back /o/ or /ɔ/ and front /ø/) has developed into a correlation of rounding, that is between /o/ or /œ/ and /e/.<sup>4</sup>

In a similar way the correlation in the pair /y/ – /i/ written (*u* – *y*) was originally based on a front vs back opposition between two rounded vowels, whereas now the relation is based on rounding, that is between front rounded [y] and front unrounded [i], both high mid:

- (12.16) *þunnur* [θyn:ɥɾ] ‘thin’ – *þynnri* [θinri] ‘thinner’  
*flytja* [flɪ:tja] ‘to transport’ – *flutti* [flyhti] ‘transported’  
*hyggja* [hɪc:a] ‘to think’ – *hugði* [hyɣði] ‘thought’  
*kunna* [kʰyn:a] ‘to know’ – *kynni* [cʰin:i] ‘knew-SUBJ’

The same is true of the alternations in (12.17):

- (12.17) *súpa* [su:pa] ‘to sip’ – *sýpur* [si:pyɾ] ‘sips’  
*strútur* [stru:tɥɾ] ‘ostrich’ – *strýta* [stri:ta] ‘peak’  
*ffjúka* [fju:ka] ‘be blown away’ – *fýkur* [fi:kɥɾ] ‘is blown away’  
*bjóða* [pjou:ða] ‘to offer’ – *býður* [pi:ðyr] ‘offers’

<sup>4</sup> The modern /œ/ can either be a reflex of old /ɔ/, a back rounded vowel, as in *sökkva* – *sekkur* ‘to sink’, which Old Icelandic was *søkva* – *søkkur*. But the corresponding weak (and transitive) verb *sökkva* ‘to sink (causative)’ had a front rounded [ø] as a stem vowel, which might have undergone delabialization, like the present sg. of the strong verb (*søkkur* > *sekkur*). This did not happen, however, the rounded vowel becoming the regular stem vowel throughout the paradigm. But in the strong *sökkva* – *sekkur* ‘to sink (unaccusative)’ the rounded vs unrounded alternation has assumed a morphophonemic role in the singular inflection.

The historical character of the process was here, as in most other instances, a fronting of a high back rounded [u:] to [y:]. The variant *jó* is due to a secondary lowering of the original (*j*)ú. Where applicable, the palatality of [j] merged with that of the following vowel.

The alternation /œy/ – /ei/ (written *au* – *ey*) gives us another example of an alternation originally involving frontness vs backness developing into a correlation of rounding, with the base rounded and the umlaut vowel unrounded:

- (12.18) *kaupa* [køy:pa] ‘to buy’ – *keypti* [ceifti] ‘bought’  
*fauk* [føy:k] ‘was blown’ – *feykja* [fei:ca] ‘to blow away’

The original base vowel was a back rounded diphthong [au], but the modern reflex is a front and rounded diphthong [øy]. The common theme in these paradigms is thus a change from a front–back opposition to one based on rounding, so that the modern i-umlaut alternations are based on rounding vs spreading.<sup>5</sup>

### 12.3.3 U-umlaut and breaking

Although the original historical u-umlaut was a general regressive assimilation of rounding affecting all unrounded vowels (see e.g. Noreen 1970: 53–107 for a thorough discussion of the rounding effects of u-umlaut in early Nordic), the modern reflex of u-umlaut is limited to just one pair of vowels, defining an alternation between low central /a/ and front low-mid rounded /œ/, the latter being the ‘umlaut vowel’. But although the relation is now limited to this single pair of vowels, the alternations between the two sounds are common and regular enough, so that serious proposals have been put forth to analyse the relation as an ‘active’ phonological rule. (See e.g. Orešnik 1972; Anderson 1974; Rögvalds-son 1981; Kiparsky 1984).<sup>6</sup> According to these proposals the phonological character of the modern /y/ (*u* in spelling) in a following syllable, phonetically a front high-mid rounded vowel, calls for some sort of assimilatory change or constraint so that the colour of an ‘underlying’ /a/ in a preceding syllable becomes /œ/, giving *börnum* [pœrtɲm] ‘children-DAT’ from an input form like #*barn+um*#, etc.

The main motivation for the analysis is the apparent transparency of the pattern and its regular application in more than one morphological function. Among such regular patterns are the ones listed in (12.19):

<sup>5</sup> Several related forms in the modern language show alternation between /ε/ and /ɪ/, which is often seen as an instance of i-umlaut, although historical scholarship does not normally classify the changes involved as i-umlaut proper. Examples showing this sort of alternation are pairs like *verk* [vεrk] ‘work’ – *virki* [vɪrɕɪ] ‘fortress’, *verð* [vεrθ] ‘price’ – *virði* [vɪrði] ‘value’, *segl* [sekɪ] ‘sail’ – *sigla* [sɪkla] ‘to sail’.

<sup>6</sup> This interpretation has even (without any sort of justification) entered the canons of the generative doctrine as e.g. presented in Kenstowicz (1993: 79–81, 244–5).

## (12.19) Inflection

*Nouns**sök* [søæ:k] ‘guilt’ – *sakar* [sa:kaɾ] ‘guilt-GEN’*kaka* [k<sup>h</sup>a:ka] ‘cake’ – *köku* [k<sup>h</sup>øæ:kʏ] ‘cake-OBL’*barn* [pa(r)tn] ‘child’ – *börn* [pøæ(r)tn] ‘children’ – *börnum* [pøæ(r)tnʏm] ‘children-DAT’*dagur* [ta:ɣʏɾ] ‘day’ – *dögum* [tøæ:ɣʏm] ‘days-DAT.PL’*bakari* [pa:kaɾɪ] ‘baker’ – *bökurum* [pøæ:kʏɾʏm] ‘bakers-DAT’*saga* [sa:ɣa] ‘story’ – *sögu* [søæ:ɣʏ] ‘story-OBL’*stjarna* [stja(r)tna] ‘star’ – *stjörnu* [stjætʏnʏ] ‘star-OBL’*Adjectives**fagur* [fa:ɣʏɾ] ‘beautiful-MASC’ – *fögur* [frøæ:ɣʏɾ] ‘beautiful-FEM’ –  
*fögrum* [fœɣʏɾm] ‘beautiful-DAT.PL’*Pronouns**annar* [an:aɾ] ‘other-MASC’ – *önnur* [œn:ɾɪ] ‘other-FEM’*allir* [atliɾ] ‘all-NOM’ – *öllum* [œltʏm] ‘all-DAT’*Verbs**fara* [fa:ra] ‘to go’ – *förum* [føæ:rʏm] ‘we go’*kalla* [katla] ‘to call’ – *köllum* [k<sup>h</sup>œltʏm] ‘we call’ – *kölluðum* [k<sup>h</sup>œltʏðʏm] ‘we called’**Word formation***fagna* [fakna] ‘to rejoice’ – *fögnuður* [fœknyðʏɾ] ‘joy’*stapi* [sta:pi] ‘cape, cliff’ – *stöpull* [støæ:pytl] ‘pillar’*jafna* [japna] ‘to make even’ – *jöfnuður* [jœpnʏðʏɾ] ‘equality’*gras* [kra:s] ‘grass’ – *grösugur* [krøæ:sʏɣʏɾ] ‘grassy’*galdur* [kaltʏɾ] ‘sorcery’ – *öldróttur* [kœltrouhtʏɾ] ‘sorcerous’

In a number of paradigms, the u-umlaut alternation relates to patterns which derive historically from Proto-Nordic breaking, giving synchronic alternations between /ja/ and /jœ/, as shown in (12.20), and with front vowels, /i/ or /ε/, due to i-umlaut in other allomorphs:

## (12.20) Inflection

*kjölr* [c<sup>h</sup>øæ:lyɾ] ‘keel’ – *kili* [c<sup>h</sup>ɪ:li] ‘keel-DAT’ – *kjalar* [c<sup>h</sup>a:laɾ] ‘keel-GEN’*ffjörður* [fjærðʏɾ] ‘firth’ – *firði* [fɪrði] ‘firth-DAT’ – *ffjarðar* [fjarðæɾ] ‘firth-GEN’*björk* [pjærk] ‘birch’ – *bjarkar* [pjærkaɾ] ‘birch-GEN’*Word formation**fell* [fetl] ‘mound, hillock’ – *ffjall* [fjatl] ‘mountain’ – *ffjöll* [fjætl] ‘mountains’*berg* [pærk] ‘rock’ – *bjarg* [pjark] ‘cliff’ – *björg* [pjærk] ‘cliffs’*ferð* [færθ] ‘travel’ – *ffjörður* [fjærðʏɾ] ‘firth’*Eyjaffjörður* [eiɟafjærðʏɾ] ‘name of a firth’ – *Eyfirdingur* [ei:fɪrðɪŋkʏɾ] ‘an inhabitant of Eyjaffjörður’

A special argument for a sort of cyclic application or chain reaction of u-umlaut is put forward by Rögnvaldsson (1981) based in alternations in paradigms like:

(12.21) *kallaði* [katlaðɪ] ‘called-SG’ – *kölluðum* [k<sup>h</sup>œtlʏðʏm] ‘called-PL’

According to this interpretation, the disyllabic past tense stem *kallað-* undergoes a double application of u-umlaut, so that ‘first’ the second vowel is rounded to /ö/: #kallöð-um#, and ‘then’ the /ö/ is reduced to /u/: #kalluðum#, which then calls for a change in the vowel of the first syllable to /ö/: *kölluðum*. This sort of alternation between /a/ and /y/ in the second syllable of disyllabic stems also occurs due to historical u-umlaut in words like *sumar* [sy:maɾ] ‘summer’ – *sumur* [sy:myɾ] ‘summers’; *kallað* [katlaθ] ‘called-NEUT.SG’ – *kölluð* [k<sup>h</sup>œtlʏθ] ‘called-NEUT.PL’. The /y/ of the second syllables is then originally an umlaut vowel, reduced to Old Icelandic /u/ in unstressed syllables, which is later fronted to /y/.

But it turns out that analysing u-umlaut as a purely phonological phenomenon in Modern Icelandic creates more problems than it solves (cf. Árnason 1985b, 1992a). First of all, the phonological effects have to be defined quite narrowly and unnaturally, to accommodate the facts that only /a/ is affected, as being fronted and rounded, which in element terms is in fact not a simple operation, because it would involve the addition of both an I and a U element. No such effects occur in other vowels before a following /y/, including stem vowels which seem in fact to have quite natural rounded counterparts. There are, for example, no signs to be found of a rounding or addition of a U element to /ɪ/ or /ɛ/, giving natural rounded counterparts like /œ/ and /y/. If the spreading of rounding or frontness is to be assumed as the essential part of u-umlaut, we would have expected similar effects in, for example, *vita* /vɪ:ta/ ‘to know’ – *vitum* ‘we know’ and *nema* /nɛ:ma/ ‘to learn’ – *nenum* ‘we learn’, which should give \*/vy:tʏm/ and \*/nœ:myɪm/, instead of the actual forms: /vɪ:tʏm/ and /nɛ:myɪm/.

And even if the sound effect could be defined so as to accommodate the fact that only low /a/ is affected, giving mid-low-front /œ/, there are exceptions going both ways, showing u-umlaut of /a/ without obvious phonological motivation and an unexpected lack of u-umlaut in spite of apparent phonological motivation. Thus in the paradigms shown in (12.1) and other examples cited above, there are cases of both unexpected u-umlaut, for example in *börn* ‘children’, without any visible trigger, and conversely forms like *dagur* ‘day’ which illustrate the occurrence of an unexpected lack of u-umlaut. Further examples of /a/ remaining before /y/ in the following syllables are *akur* [a:kʏɾ] ‘field’ and *kaktus* [k<sup>h</sup>axtʏs] ‘cactus’. Still another exception is to be found in the definite form *barnum* [partʏm] ‘the bar-DAT’ (cf. *bar* ‘a bar’). This form creates a minimal pair with *börnum* [pœrtʏm] ‘children-DAT’.

There is thus an endless number of exceptions, making the potential rule quite opaque.<sup>7</sup>

<sup>7</sup> According to Aðalsteinsson and Konráðsson (2009), there is no evidence that u-umlaut patterns where the ‘trigger’ is present, e.g. in *panna* ‘pan-NOM’ – *pönnu* ‘pan-DAT’, are more easily acquired by six-year-old children than patterns where there is no trigger, as e.g. in *barn* ‘child’ – *börn* ‘children’.

### 12.3.4 Morphology and phonotactics in vocalic alternation

The summary above shows that Icelandic makes abundant use of vocalic alternation in its morphology. And as pointed out by Einar Haugen (1970: 133), it may in fact be seen as a typological choice on behalf of the speakers of Icelandic to uphold the possibility of expressing morphological relations with the help of vocalic paradigms having rather deep historical roots. In fact the historical development of the mergers and splits in the vowel system did not disrupt important morphophonemic distinctions. We have seen that in some cases the development has made this function even more clearly expressible. This is the case in i-umlaut patterns /æ/–/ε/, /ɔ/–/ε/, /u/–/i/, /y/–/i/, /ou/–/ai/, /au/–/ai/ and /œi/–/εi/ discussed in section 12.2.2 above, where there is a consistent difference between the base vowels and i-umlaut vowels in the presence vs absence of the U element.

But since most of the time a paradigm of alternation serves more than one morphological function (cf. e.g. the u-umlaut alternation: *sök* ‘guilt-NOM.SG’ – *sakar* ‘guilt-GEN.SG’ and *barn* ‘child-SG’ – *börn* ‘children’ – *börnum* ‘children-DAT’), the link between morphological function and lexical phonological structure is only indirect, and the umlaut patterns do not have a unified semiotic role (cf. Árnason 1985b). This sort of homonymy in morphophonemic relations is well known in morphology; it is, for example, common for the same sort of ending form to serve as an exponent of different types of morphological structure. Thus typical MI endings like *-ir*, *-ar* (and *-um*) can function as plural endings in nouns, *gest-ir* ‘guests’ ‘sends’ *bíl-ar* ‘cars’, or as singular endings in verbs: *send-ir* ‘sends’, *kall-ar* ‘calls’. And such examples from Icelandic and other languages can be multiplied.

Distinguishing between different sets of phonological patterns by assigning them to different strata in the phonology enables us to look on the umlaut and ablaut patterns as special ‘morphophonemes’, that is sound correspondences which are sometimes put to direct morphological use. The phonological correspondences are structure-preserving in the sense defined in section 3.1, since the alternation is based on a set of phonemic units defined for the lexical representations which serve as inputs to the ‘real’ phonological mapping. And the phonological patterns exist in the lexical phonology independent of their application in inflection or derivation, so that some of the principles could be stated as phonotactic principles or morpheme structure constraints. Thus we can say that the u-umlaut characteristics of an underived form like *höfuð* [hœ:vyθ] ‘head’, which conforms to the u-umlaut relation, is the same as that of inflectional forms like *börn+um* [pœrtnym] ‘children-DAT’. Exceptions to these patterns also occur, some of them principled (like the lack of u-umlaut in definite *barnum* ‘the bar’) and, depending on our approach, we can mark them lexically as exceptions to the demands, or mark the forms that conform to the u-umlaut pattern as the special case. In any case, given that we are dealing with lexical patterns, exceptions are to be expected. We shall also see in section 12.9 below that neither i-umlaut nor u-umlaut apply in compounds like *útsýni* ‘view’, *varðhundur* ‘watchdog’, or *framburður* ‘pronunciation’, nor indeed postlexically in utterances.

## 12.4 FAROESE VOWEL MORPHOPHONEMICS

## 12.4.1 Ablaut

Like Icelandic, several patterns of vowel alternations deriving from ancient sound laws have left their mark on Modern Faroese paradigms. Thus, according to Thráinsson et al. (2004: 142 ff.) and Lockwood (1955/1977: 81–5) there are seven series of ablaut patterns in Faroese strong verbs, and although the phonetic correspondences are different, the genetic relation to the Icelandic patterns (described in section 12.3) is obvious. Thus the verb *bíta* ‘to bite’ – *beit* ‘bite-PRET.SG’ – *bitu* ‘bite-PRET.PL’ – *bitið* ‘bite-PAST.PART’ has a pattern of alternations: *í* [ʊi:] – *ei* [ai:] / [ɔi] – *i* [i:] , corresponding regularly with the pattern of the Icelandic verb *bíta* ‘to bite’. The second series of strong verbs is exemplified by verbs like *bróta* ‘to break’ – *breyt* – *brutu* – *brotið* and *krúpa* ‘to kneel’ – *kreyp* – *krupum* – *kropið*. The basic form of this series is *ó* [ɔu:] / *ú* [ʊu:] – *ey* [ei:] – *u* [u:] – *o* [o:] , which also has a more or less regular correspondence with Icelandic verbs like *brjóta* ‘break’ and *krjúpa* ‘to kneel’. There are two options, /ɔu/ or /ʊu/, regarding the vowel qualities in the MF present stem of the second series, and as we shall see below there are further complications due to *Verschärfung* in the inflection of verbs like *lúggva* [lɪkva] ‘to lie’.

The third class is exemplified by verbs like *sleppa* ‘to escape’ – *slapp* – *sluppu* – *sloppið*. Here, the pattern is *e* [ɛ] / *i* [ɪ] / *ø* [œ] – *u* [ʊ] – *u* [ʊ] / –*o* [ɔ] , and again there is more than one option in the present stem; among the verbs listed as belonging to this class are *binda* ‘bind’ and *hvørva* ‘disappear’, with different vowels in the present form. In a verb like *svimja* ‘to swim’ there is an alternation between a short vocalism in the present stem and a long one in the past: *svimja* [svɪmja] ‘to swim’ – *svam* [svɛa:m] ‘swam’ – *svumu* [svu:mu] ‘they swam’.

In a number of strong verbs there is an alternation between /ɛa/ in the preterite singular and /ɔu/ (sometimes /ʊu/) in the preterite plural, but various vowels in the other principal parts:

- (12.22) *bera* [pe:ɪa] – *bar* [pɛa:ɪ] – *bóru* [pɔu:ɪʊ] – *borið* [pɔɔɪ] ‘to carry’  
*drepa* [tre:pɑ] – *drap* [trɛa:p] – *drópu* [trɔu:pʊ] *drupu* [truu:pʊ] – *dripið*  
 [tri:pɪ] ‘to kill’  
*sova* [so:vɑ] – *svav* [svɛa:v] – *svóvu* [svɔu:vʊ] – *sovið* [soɔvɪ] ‘to sleep’  
*eta* [e:ta] – *át* [ɔa:t] – *ótu* [ɔu:tʊ] – *eti* [e:tɪ] ‘to eat’

Still another class comprises verbs like *mala* – *mól* – *mólu* – *malið* ‘to grind’ with /ɔu/ in the preterite stem (both singular and plural), but the vocalism of the present stem and past participle varies, as in *sláa* ‘to strike’ and *svørja* ‘to swear’. Various patterns of alternations shown by verbs are: *halda* [halta] – *helt* [heɫ] – *hildu* [hɪltʊ] – *hildið* [hɪltɪ] ‘to think’; *gráta* – *græt* – *grótu* – *grátið* ‘to cry’; *ganga* – *eg gangi* – *tú gongur* – *gekk* – *gingið* ‘to walk’.

As in Icelandic, the ablaut patterns may interact with other sound laws. Thus the present forms of *bróta* ‘break’ and *krúpa* ‘to kneel’ have i-umlaut forms like *brýtur*



[pɹɔi:tʊɹ] and *krýpur* [kʰɹɔi:pʊɹ] for 2P and 3P.SG. In some verbs, the *Verschärfung* causes extra complications, as in *lúgva* [lɪkva] ‘to lie’, which historically belongs to the second strong class (*leyg* [lɛi] ‘(he) lied’, *lugu* [lu:wʊ] ‘they lied’, *logið* [lo:jɪ] ‘(he has) lied’). This verb has *lúgvi* [lɪkvi] ‘I lie’ with *Verschärfung* vs *lýgur* [lɔi:jʊɹ] ‘you/he lie(s)’ with the reflexes of i-umlaut in its present paradigm.

Further complications in the vocalic patterns shown by verbal paradigms may be caused by even more recent sound laws. Thus verbs like *sláa* ‘to strike’ and *draga* ‘to pull’ can have raising in hiatus in the infinitival forms and the 3.PL present forms, that is [sluwa], [triɹja] beside [slɔ:a] and [tɹɛ:a], corresponding to *sló* [slɔu:], *slóu* [slɔu:wʊ] and *dró* [tɹɔu:], *drógu* [tɹɔu:wʊ].

### 12.4.2 Umlaut

The synchronic effects of umlaut in MF have been less extensively studied than in Icelandic, and the patterns are indeed less regular or pervasive. But it is still the case that i-umlaut and u-umlaut patterns can be found in both nominal and verbal paradigms. Thus, as shown in (12.23), there are cases of allomorphy due to i-umlaut between singular and plural stems of nouns and different verbal forms:

#### (12.23) Nominal

*nátt* [nɔʰt:] ‘night-SG’ – *nætur* [nɛa:tʊɹ] ‘night-PL’  
*bók* [pɔu:k] ‘book’ – *bøkur* [pøæ:kʊɹ] ‘books’  
*gás* [kɔa:s] ‘goose’ – *gæs* [kɛa:s] ‘geese’  
*mús* [mʊu:s] ‘mouse’ – *mýs* [mɔi:s] ‘mice’  
*tonn* [tʰɔn:] ‘tooth’ – *tenn* [tʰɛn:] ‘teeth’

#### Verbal

*búgvi* [pɪkvi] ‘I live’ – *býrt* [pɔi:ɹ] ‘you live’ – *býr* [pɔi:ɹ] ‘he lives’ – *búði* [pɔ:wɪ] ‘he lived’ – *búðu* [pʊu:wʊ] ‘they lived’

But it must be noted that later phonological development has in most cases made the original phonetic conditions totally obscure. (Thus in the case of *mús* ‘mouse-SG’ vs *mýs* ‘mouse-PL’, the alternation between the base form and the umlaut form takes the form of an alternation between an u-diphthong /ʊu/ and an i-diphthong /ɔi/, both rounded.)

I-umlaut of the sort shown in (12.23) can interact with u-umlaut effects, as in the case of *mörk* [mœɹk] ‘a measure’ – *markar* [maɹkaɹ] ‘measure-GEN’ – *merkur* [mɛɹkʊɹ] ‘measure-PL’ (cf. Icelandic *mörk* – *markar* – *merkur*), and *hond* [hɔnt] ‘hand’ – *handar* [hantaɹ] ‘hand-GEN’ – *hendur* [hɛntʊɹ] ‘hand-PL’ (cf. Icelandic *hönd* – *handar* – *hendur*). But here we must note that the potential genitival forms with the a-vocalism have a limited function.

Examples showing u-umlaut and breaking alternations similar to the Icelandic ones are shown in (12.24). (The u-umlaut vowel in Faroese is back /ɔ/ in front of nasals, but front /œ/ in other environments.)

- (12.24) *fastur* [fastuɪ] ‘firm’ – *føstum* [føstun] ‘firm-DAT’  
*fagur* [fɛa:vʊɪ] ‘beautiful’ – *føgrum* [føkrʊn] ‘beautiful-DAT’  
*gamal* [kɛa:mal] ‘old’ – *gomul* [koɔ:mʊl] ‘old-FEM’ – *gomlum* [kɔmlʊn] ‘old-DAT’  
*jörð* [jø:ɪ] ‘earth’ – *jarðir* [jɛa:ɪɪɪ] ‘earths’ – *jörðum* [jø:ɪʊn] / *jarðum* [jɛa:ɪʊn] ‘earths-DAT’  
*hjallur* [ʃatɪʊɪ] ‘shed’ – *hjøllum* [ʃføtɪʊn] / *hjallum* [ʃfatɪʊn] ‘sheds-DAT’

In general, alternations like the ones shown above must be seen as marginal, and analogical levelling has taken place in many examples. Thus the umlaut in the dative plural is only optional in forms like *akur* – *økrum/akrum* ‘field’, *hamar* – *homrum/hamrum* ‘hammer’ (Thráinsson et al. 2004: 77 ff.). And in paradigms like the ones in (12.25), the regular alternation which still prevails in Icelandic paradigms like *saga* – *sögu* and *stjarna* – *stjörnu* has been levelled out in Faroese, sometimes generalizing the umlaut vowel, as in (12.25a), and at other times the base vowel, as in (12.25b).

- (12.25) a. *søga* [sø:va] ‘story’ – *søgu* [sø:vʊ] ‘story-OBL’ – *søgur* [sø:vʊɪ] ‘stories’  
*søgum* [sø:vʊn] ‘stories-DAT’  
*stjørna* [stjœtna] ‘star’ – *stjørnu* [stjœtnʊ] ‘star-OBL’ – *stjørnur* [stjœtnʊɪ] ‘stars’ – *stjørnum* [stjœtnʊn] ‘stars-DAT’  
 b. *alda* [alta] – *aldu* [altʊ] ‘wave-OBL’ – *aldur* [altʊɪ] ‘waves’ – *aldum* [altʊn] ‘waves-DAT’

And in other cases there are double forms like *skadda* or *skødda* ‘fog, drizzle’, both taking *-u*, *-ur*, and *-um* as oblique endings. In adjectives like *lamin* ‘lame’ – *lamnum* ‘lame-DAT.PL’ the alternation found in Icelandic forms like *farinn* ‘gone’ – *förnum* ‘gone-DAT.PL’ has been levelled out.<sup>8</sup>

Although combined vowel alternations, due to the effects of more than one historic law, are not particularly common in Faroese, this may happen, as for example in the paradigm for *dagur* ‘day’:

- (12.26) *dagur* [tɛa:vʊɪ] ‘day’, *dag* [tɛa:] ‘day-ACC’, *degi* [te:ji] ‘day-DAT’, *dags* [taks] ‘day-GEN’, *døgum* [tø:vʊn] ‘days-DAT.PL’, *daga* [te:a] / [ti:ja] ‘day-ACC.PL’

Here the NOM.SG has /ɛa/, a reflex of historical /a/ as a ‘base vowel’, whereas the DAT.SG has an i-umlaut sound, and the DAT.PL a u-umlaut sound. And other sound laws have an effect on the allomorphy, for example raising in hiatus, which shows up in the ACC.PL. In fact this paradigm provides a minimal pair of the sort discussed in section 5.4.3 between monosyllabic *dag* [tɛa:] ‘day-ACC.SG’ vs disyllabic *daga* [te:a]/[ti:ja] ‘day-ACC.PL’.

<sup>8</sup> Remnants of alternation in non-initial syllables can be seen in *summar* ‘summer’ – *summur* or *summør* ‘summer-PL’. And a similar alternation is seen in *gamal* ‘old’ [kɛa:mal] – *gomul* [ko:mʊl] ‘old-FEM’, cf. section 12.3.3 above.

It is doubtful to what extent the allomorphy shown above should be counted as phonologically determined, but it is still the case that some of the patterns would qualify as *Lautwechselreihen* being put to morphological use in the sense of Trubetzkoy. And, as suggested in section 5.1.2, it would seem that the correspondences between the vowel pairs in open vs closed syllables *gamal* [kɛa:mal] ‘old-MASC.NOM.SG’ – *gamlan* [kam-lan] ‘old-MASC.ACC.SG’, etc. (cf. (5.1), p. 68) have things in common with these patterns.

## 12.5 CONSONANTAL PATTERNS IN ICELANDIC MORPHOPHONEMICS

As in the case of vocalic patterns, the historical roots of the consonantal allomorphy of the modern languages sometimes go quite far back, to Proto-Nordic or even Proto-Germanic sound laws. Thus in verbs like MI *sækja* [sai:ca] ‘to fetch’ and *þykja* [θi:ca] ‘to think, to judge’, the past tense forms *sótti* [souhti] and *þótti* [θouhti] have a postvocalic consonantism which has its roots in an assimilation of /kt/ to /tt/ which took place in Proto-Nordic, and the result is a preaspirated stop. An alternation which has an even older source is the one in *finna* [fin:a] ‘to find’, which has the consonantism /nd/ in the past tense plural *fundum* [fɛntym] ‘we found’, due to Verner’s Law. These patterns are clearly historical relics and of no significance in the modern system of phonological patterns or oppositions. But some more specifically West Nordic patterns, that is ones that have developed in the history of Icelandic (and Faroese), have given rise to alternations and correspondences which are relevant for the phonological analysis of the modern languages.

In inflections such as *trefill* [tʰrɛe:vɪtʰ] ‘scarf-NOM’ – *trefli* [tʰrɛplɪ] ‘scarf-DAT’ and *segull* [sɛ:vytʰ] ‘magnet-NOM’ – *segli* [sɛkli] ‘magnet-DAT’ there is an alternation between fricatives and homorganic stops. Other examples of this type of allomorphy are shown in (12.27):

- (12.27) *dúfa* [tu:va] ‘dove’ – *dúfna* [tupna] ‘doves-GEN’  
*hagur* [ha:ɣʏɾ] ‘well-being’ – *hagnaður* [haknaðʏɾ] ‘profit’  
*stífur* [sti:vʏɾ] ‘stiff’ – *stífnir* [stipnɪ] ‘inflexibility’  
*deigur* [tei:ɣʏɾ] ‘soft’ – *deigla* [teikla] ‘melting pot’  
*stafur* [sta:vʏɾ] ‘letter’ – *hástefflingur* [hausteplɪŋkʏɾ] ‘small capital’

Some of these alternations have been classified as active phonological rules (see e.g. Rögnvaldsson 1993; Indriðason 1994), but at the same time it has been pointed out that the laws are only ‘active’ under certain morphological conditions (cf. section 12.9 below).

Similar conditions apply to preaspiration, which as already mentioned is quite common in morphophonemics. Examples showing this are given in (12.28):

- (12.28) Inflection  
*jöunn* [jœtɥn] ‘giant’ – *jötni* [jœhtnɪ] ‘giant-DAT’  
*flýta* [fli:ta] ‘speed up’ – *flýtti* [flihtɪ] ‘speed up-PAST’

## Derivation

*auka* [øy:ka] ‘to increase’ – *aukning* [øyhknɪŋk] ‘increase, growth’

*bati* [pa:tɪ] ‘improvement’ – *batna* [pahtna] ‘to improve’

*vaka* [va:k<sup>h</sup>a]/[va:ka] ‘be awake’ – *vakna* [vahkna] ‘wake up’

*sjúkur* [sju:k<sup>h</sup>ʏɾ] ‘sick’ – *sjúklingur* [sjuhkliŋkyɾ] ‘patient’

*meta* [mæ:ɪ<sup>h</sup>a] ‘evaluate’ – *metnaður* [mɛhtnaðyɾ] ‘ambition’

A special pattern of consonantal allomorphy is connected to case inflection in certain masculine nominals (nouns and adjectives). Nouns showing this type of allomorphy are shown in (12.29):

- (12.29) *steinn* [steitɲ] ‘stone’ – *stein* [stei:ɲ] ‘stone-ACC’ – *steinar* [stei:naɾ] ‘stones’  
*hóll* [houtɪ] ‘hill’ – *hól* [hou:l] ‘hill-ACC’ – *hólar* [hou:laɾ] ‘hills’

Apart from the nominative form, these words fall into patterns typical of strong nouns like *bátur* ‘boat’, *hestur* ‘horse’, and *mór* ‘peat, grassland’, compare the respective NOM.PL forms: *bátar* [pau:taɾ], *hestar* [hɛstaɾ], *móar* [mouwaɾ]. These latter words all have NOM.SG endings containing an /t/, and proposals have been made (see e.g. Rögnvaldsson 1993: 72–4) to derive the nominative forms of *bátur* and *steinn* from inputs containing /t/-# *stein*+r#, #*hól*+r# – parallel to the /yɾ/ or /ɾ/ in *hestur*, *bátur*, and *mór*. (For *steinn* [steitɲ] and *hóll* [houtɪ], the analysis replicates historical processes, such as an assimilation of sonorants /nr/ > /nn/ and /lr/ > /ll/, and later prestopping to /tn/ and /tl/.) But the solutions call for extreme tolerance regarding opacity and abstractness in the input–output mapping.

As mentioned in section 12.2 above and (cf. section 11.2.4), devoicing of sonorants and fricatives takes place in inflection and certain types of word formation. In the examples in (12.30) devoicing occurs (sometimes dialectally) when sonorants appear before fortis consonants:

- (12.30) *heilir* [hei:liɾ] – *heilt* [heilt] ‘whole’  
*fínir* [fi:nɪɾ] – *fínt* [fɪnt] ‘fine’  
*tómir* [t<sup>h</sup>ou:mɪɾ] – *tómt* [t<sup>h</sup>oumt] ‘empty’  
*hállir* [hau:liɾ] – *háлка* [hauɪka] ‘slipperiness’  
*grænir* [krai:nɪɾ] ‘green-PL’ – *grænka* [kraɪŋka] ‘to grow green’  
*sagði* [saɣði] ‘said-SG’ – *sagt* [saxt] ‘say-PAST.PART’

In the examples shown in (12.31) an ‘intrusive [t]’ shows up between /r/ on the one hand and /n/ or /l/ on the other:

- (12.31) Inflection  
*ærinn* [ai:rɪn] ‘sufficient’ – *ærnir* [airtnɪɾ] ‘sufficient-PL’  
*bjórin* [pjou:rɪn] ‘the beer’ – *bjórnum* [pjournɪnm] ‘the beer-DAT’  
*gerill* [çɛritɪ] ‘germ’ – *gerlar* [çɛrtlaɾ] ‘germs’

## Word formation

*gjöra* [cæ:ra] ‘to do’ – *gjörningur* [çœrtɲɪŋkyɾ] ‘action’

This intrusive /t/ occurs between morphemes in inflection and in certain types of word formation, but as we shall see in section 12.9 below, the same is not true of compounds.

## 12.6 CONSONANTAL PATTERNS IN FAROESE

As was shown in section 2.10, the history of the *skerping* or *Verschärfung* in Faroese is rather complex, and the modern distribution of forms showing the effects of this sound change has obscured the phonological conditioning. There are several paradigms, showing alternation which originated in this sound change. Thus verbs like *búgva* ‘to live’, *rógva* ‘to row’, *doyggja* ‘to die’, *spýggja* ‘to spew, vomit’ show alternation patterns based on the presence vs absence of the *skerping*:

- (12.32) *búgva* [píkva] ‘they live’  
*býrt* [pøi:ɬ] ‘you live-SG’  
*búði* [pu:wɪ] ‘lived-SG’  
*rógva* [ɹɛkva] ‘they row’  
*rørt* [ɹæ:ɬ] ‘you row-SG’  
*róði* [ɹou:wɪ] ‘rowed-SG’  
*doyggja* [tɔiɬ:a] ‘to die’  
*doyrt* [tɔi:ɬ] ‘you die-SG’  
*doyði* [tɔi:jɪ] ‘died-SG’  
*spýggja* [spøiɬ:a] ‘they vomit’  
*spýrt* [spøi:ɬ] ‘you vomit-SG’  
*spýði* [spøi:jɪ] ‘vomited-SG’

(cf. Thráinsson et al. 2004: 140)

The effects of the *skerping* can also be seen in noun paradigms like the ones in (12.33):

- (12.33) *gjógv* [tʃɛkv] ‘cleft, ravine’ – GEN: *gjáar* [tʃɔ:aɪ]/[tʃu:wai] – NOM.PL:  
*gjáir* [tʃɔa:jɪɪ] – DAT.PL: *gjáum* [tʃɔa:vøn]  
*krógv* [kʰɹɛkv] ‘pub, enclosure for storing peat’ – NOM.PL: *kráir*  
[kʰɹɔa:jɪɪ] – DAT.PL: *kráum* [kʰɹɔa:vøn]  
*klógv* [kʰɹɛkv] ‘claw’ – (GEN: *klóar* [kʰɹɔu:wai]) – DAT.PL: *klør* [kʰɹœ:ɪ] /  
*kløur* [kʰɹœ:vøn], DAT.PL: *klóm* [kʰɹɔu:m]  
*kúgv* [kʰɹkv] ‘cow’ – (GEN: *kúgvar* [kʰɹkvaɪ]) – DEF.ACC: *kúnna* [kʰɹn:a] –  
NOM.PL: *kýr* [kʰøi:ɪ] – DAT.PL: *kúm* [kʰøu:n] – DEF.NOM: *kúgvín*  
[kɹkvɪn] – DEF.DAT: *kúnni* [kʰɹn:ɪ] – DEF.NOM/ACC.PL: *kýrnar*  
[kʰøitnaɪ] DEF.DAT.PL: *kúnnum* [kʰøu:nøn]

Here we have alternation between forms with or without *skerping*, but in some words the *skerping* appears in the whole paradigm: *húgva*, *húgvu*, *húgvur* ‘cap’ and *hoyggja* – *eg hoyggi* – *hoyggjaði* ‘to make hay’. In these paradigms, which have disyllabic forms throughout, the *skerping* is historically regular, but in some cases the paradigm of original hiatus forms have generalized the stop form to the whole paradigm, including original monosyllabic forms: *oyggj*, *oyggjar*, *oyggjum*, *oyggin*

‘island’. Some such paradigms become more complex when the definite forms are taken into account, thus the definite forms *oynna* [ɔitna] ‘the island-DEF.ACC’ – *oynni* [ɔitni] ‘is land - DAT. DEF’ show pre-stopping of nasals.

In some cases we find alternation between MF forms with glides alternating with stop, often with complicated patterns and alternate forms, as in the word *tráður* [tʰrɔɑ:ʋʊɹ] ‘thread’, shown in (12.34):

- (12.34) ACC.SG *tráð* [tʰɹɔɑ:]  
 DAT.SG *træðri* [tʰɹɛɑ:ɹɪ] / [tʰɹakɹɪ] or *tráði* [tɹɔɑ:ɹɪ]  
 NOM.PL *tæðrir* [tɹɛɑ:ɹɪɹ] / [tʰɹakɹɪɹ]  
 DAT.PL *træðrum* [tʰɹɛɑ:ɹʊɹ] / [tʰɹakɹʊɹ] or *tráðum* [tʰrɔɑʋʊɹ]  
 (cf. Lockwood 1955: 31)

Other rather complex paradigms with similar variation are shown in (12.35) for words like *eyga* ‘eye’ and *veður* ‘weather’:

- (12.35) NOM.SG *eyga* [ei:ja]  
 NOM/ACC.PL *eygur* [ei:jʊɹ] or *eygu* [ei:jʊ]  
 DAT.PL *eygum* [ei:jʊɹ]  
 GEN.PL *eygna* [ɛkna]  
 NOM.SG *veður* [vɛɛ:ʋʊɹ]  
 DAT.SG *veðri* [vɛkɹɪ]

## 12.7 VOWEL DELETION IN PARADIGMS

As already mentioned in connection with the inflection of MI *ketill* ‘kettle’ in (12.1), a vowel in a disyllabic stem may be deleted before another vowel with an inflectional ending in Icelandic. Other instances of this, as well as deletion before derivational suffixes, are shown in (12.36):

- (12.36) Noun inflection
- | NOM.SG                     | DAT.SG                 | GEN.SG                             |
|----------------------------|------------------------|------------------------------------|
| <i>hamar</i> [ha:maɹ]      | <i>hamri</i> [hamɹɪ]   | <i>hamars</i> [ha:maɹs] ‘hammer’   |
| <i>gaman</i> [ka:man]      | <i>gamni</i> [kamni]   | <i>gamans</i> [ka:mans] ‘fun’      |
| <i>akur</i> [a:kyɹ]        | <i>akri</i> [a:krɪ]    | <i>akurs</i> [a:kyɹs] ‘field’      |
| <i>ketill</i> [cʰɛ:tɪɭ]    | <i>katli</i> [kʰahtɪ]  | <i>ketils</i> [cʰɛ:tɪls] ‘kettle’  |
| <i>kapall</i> [kʰa:patɭ]   | <i>kapli</i> [kʰahplɪ] | <i>kapals</i> [kʰa:pals] ‘cable’   |
| <i>snígill</i> [stni:jɪtɪ] | <i>snigli</i> [stnikɪ] | <i>snígils</i> [stni:jɪls] ‘snail’ |
| <i>jötunn</i> [jœ:tyɹ]     | <i>jötni</i> [jœhtni]  | <i>jötuns</i> [jœ:tyɹns] ‘giant’   |
- Adjectival inflection
- | NOM.SG.MASC                | DAT.PL                   | GEN.SG.MASC                         |
|----------------------------|--------------------------|-------------------------------------|
| <i>heiðin(n)</i> [hei:ðɪn] | <i>heiðnum</i> [heiðnɪm] | <i>heiðins</i> [hei:ðɪns] ‘heathen’ |
| <i>visinn</i> [vɪ:sɪn]     | <i>visnum</i> [vistnɪm]  | <i>visins</i> [vɪ:sɪns] ‘emaciated’ |
| <i>gamall</i> [ka:matɭ]    | <i>gömlum</i> [kœmɪɪm]   | <i>gamals</i> [ka:mals] ‘old’       |

## Derivation

*himinn* [hi:mɪn] ‘heaven-NOM’ – *himneskur* [hɪmɛskʏr] ‘heavenly’  
 (*himni* [hɪmɪ] ‘heaven-DAT’)  
*vetur* [vɛɛ:ʏr] ‘winter’ – *vetri* [vɛɛ:tri] ‘winter-DAT’ – *vetrungr* [vɛɛ:trʊŋkʏr]  
 ‘a one-year-old’

The paradigms show that vowel deletion can lead to reorganization of consonant structure and syllabification by ‘triggering’ things like occlusion (cf. *snigli* [stɪnɪkɪ]) and preaspiration (*jöni* [jœhtɪ]). And the length rule (the lexical version, cf. section 10.2.2) is observed in the allomorphy. Thus, for example, the vowel deletion in *hamar* – *hamri*, *akur* – *akri*, and *visinn* – *visnum* creates clusters which syllabify differently; in the case of *hamri* [ham.rɪ] the first vowel is short within a closed syllable, whereas in *akri* [a:.kɪrɪ], we have an open syllable and a long vowel (the interlude /k+r/ forming an onset), and in *visnum* [vɪstɲɪm] ‘emaciated-DAT.MASC’ we have a short vowel (cf. NOM.SG.MASC *visinn* ‘emaciated’); this is the lexical version, giving a short vowel before /sn/ and an intrusive /t/.

Another type of vowel deletion, shown in (12.37), occurs when stem-final vowels are deleted before vowels in inflectional endings, as in the inflection of verbs like *heita* and *kalla*:

(12.37) 2 and 3.SG:

*kalla-r* [kʰatlaɾ] ‘calls’ – *heiti-r* [hei:tiɾ] ‘is named’

1.PL:

*köllum* [kʰætɫɪm] ‘we call’ – *heitum* [hei:tɪm] ‘we are named’

As shown by the 2 and 3.SG forms, the verbs can be taken to have stems ending in vowels, which are realized when, in the second and third person, *-r* is added: #*heiti*+*r*#, #*kalla*+*r*#. But when the ending starts with a vowel, the stem vowel is deleted, as in 1. PL *köllum*, *heitum*, implying inputs something like #*kalla*+*um*# and #*heita*+*um*#. Similarly in *nýra* ‘kidney’, which (arguably) has a stem ending in *-a*, the vowel is deleted before another vowel belonging to the ending, as in DAT.PL *nýrum* [ni:rɪm] (< #*nira*+*ɪm*#). But it is interesting to note that the final vowel of *partí* [partɪ], a loan which is unusual in having a stem ending in /i/ (instead of e.g. the traditional ending vowel /ɪ/) is not deleted in this way; the DAT.PL is *partíum* [partɪjɪm], with the vowel maintained in spite of the hiatus. The deletion is thus restricted to apply to vowel colours which are typical of traditional endings (cf. section 4.2, and section 14.4.1 below).

Similar conditions prevail in noun paradigms like *hirðir* ‘shepherd’ and *læknir* ‘doctor’, ACC: *hirði* and *lækni*, GEN: *hirðis* and *læknis*, which can be analysed as having stems like *hirði*- and *lækni*-, with an *-r* added in the nominative and an *-s* in the genitive. In these and similar verbal or nominal paradigms (cf. e.g. Rögnvaldsson 1993: 82–3), the thematic vowel is deleted before endings beginning in vowels: *hirðar* ‘shepherds’, *hirðum* ‘shepherds-DAT’; *læknar* ‘doctors’, *læknum* ‘doctors-DAT’.<sup>9</sup>

<sup>9</sup> There is an alternative (stigmatized) paradigm for words like *læknir*: *læknirar* – *læknirum*, where the nominative form of the ‘correct’ paradigm has been generalized. And in this case there is no vowel deletion before endings starting with vowels, showing again that the vowel deletion is not phonologically regular.

Once again, Faroese shows similar patterns. Thus we have paradigms comparable to the Icelandic ones in (12.37), with deletion of a vowel in a disyllabic stem before a vowel in an inflectional ending, as shown in (12.38):

(12.38)	NOM.SG	DAT.SG	NOM.PL
	<i>hamar</i> [hɛa:maɪ]	<i>hamri</i> [hamɪɪ]	<i>hamrar</i> [hamɪaɪ] ‘cliff, hammer’
	<i>himmel</i> [hɪm:al]	<i>himli</i> [hɪmlɪ]	<i>himmlar</i> [hɪmlaɪ] ‘heaven’
	NOM.SG	NOM.PL	DAT.PL
	<i>systir</i> [sɪstɪɪ]	<i>systrar</i> [sɪstɪaɪ]	<i>systurum</i> [sɪstrʊn] ‘sister’
	<i>vættur</i> [vaʰt:ʊɪ]	<i>vættrar</i> [vaʰt:ɪaɪ]	<i>vættrum</i> [vaʰt:ʊʊn] ‘fairy’

But as we have seen, the status of non-initial syllables in Faroese is in general more precarious than in Icelandic, and as mentioned in section 5.5, there is a tendency for forms which in the normalized spelling have two or three syllables to suffer weakening or deletion, giving monosyllabic [sɪstɪ] for *systir* and disyllabic [pɔa:tnʊn] and [huu:snʊn] for *bátinum* ‘the boat-DAT’ and *húsinum* ‘the house-DAT’. The analysis of these phenomena therefore calls for a closer look at the interplay of lexical and postlexical conditions. In certain words, the vowel deletion of the first vowel of the disyllabic definite ending /-inum/ (MASC and NEUT) or /-ini/ (FEM) seems to be consistent. Thus, words like *býur* [pɔi:jʊɪ] ‘town’ (MASC), *træ* [trɛa:] ‘tree’ (NEUT), and *vág* [vɔa:] ‘bay’ (FEM) have the following forms for DEF.DAT.SG: *býnum* [pɔi:nʊn], *trénnum* [tʰrɛa:nʊn] and *vágini* [vɔkni], (cf. Petersen and Adams 2009: 35). But in other cases, there is more vacillation, seemingly due to postlexical conditions.

Still one type of vowel deletion in Icelandic allomorphy is shown in the definite paradigms of nouns exemplified in (12.39):<sup>10</sup>

(12.39)	Indefinite	Definite
	<i>bók</i> [pou:k] ‘a book-NOM’	<i>bók-in</i> [pou:cɪn] ‘the book’
	<i>stúlka</i> [stulka] ‘a girl-NOM’	<i>stúlka-n</i> [stulʁkan] ‘the girl-NOM’
	<i>stúlku</i> [stulʁkɪ] ‘a girl-ACC’	<i>stúlku-na</i> [stulʁkɪna] ‘the girl-ACC’

In forms like *stúlka-n* and *stúlku-na*, which have corresponding indefinite forms ending in vowels, there is vowel deletion, so that potentially trisyllabic forms are made disyllabic, but unlike in (12.36) and (12.37), where the vowel on the left is deleted, in this case, the first of two vowels survives: #stulka-ɪn# > [stulʁkan]; #stulʁkɪ-na# > [stulʁkɪna]. And similarly, as shown in (12.40), the addition of the definite article to a disyllabic form ending in a consonant does not trigger deletion in the stem:

<sup>10</sup> Icelandic nouns take part in two paradigms, the normal indefinite one, and a definite one, where the morphological structure is semi-transparent, so that the definite endings show a relation to the pronominal form, sometimes called the independent article, *hinn* – *hinum* – *hins* (etc., see e.g. Einarsson 1945: 48–50). Thus the *-inn* of *gesturinn* relates to *hinn*, and the *-(i)num* of *gesturinn* relates to *hinum*, etc. It is doubtful, however, whether a direct link should be made between the free forms *hinn*, *hinum*, etc. and the definite morpheme as it appears in the noun paradigms.



- (12.40) *hamar-inn*, not *\*hamrinn* ‘the hammer’  
*akurinn*, not *\*akrinn* ‘the field’

Here, both the indefinite ‘base’ and the definite morpheme retain their vowels.

But when the definite morpheme is disyllabic, as in the plural paradigms shown in (12.41), deletions occur when the definite morpheme is added to indefinite bases, as in *strákar* ‘boys’ – *stráka* ‘boys-ACC’ – *strákum* ‘boys-DAT’ and *stúlkur* ‘girls’ – *stúlkum* ‘girls-DAT’:

- (12.41) *strákarnir* [strau:kartniɾ]/[strau:katniɾ] ‘the boys’ (< #straukar+InIr#)  
*strákana* [strau:kana] ‘the boys-ACC’ (< #strauka+Ina#)  
*strákunum* [strau:kynym] ‘the boys-DAT’ (< #straukum+Inum#)  
*stúlkurnar* [stułkyrtnar]/[stułkytnar] ‘the girls’ (< #stulkyr+Inar/)  
*stúlkunum* [stułkynum] ‘the girls-DAT’ (< #stulkym+Inym#)

Judging from the form of the ‘independent article’, which has the disyllabic form *hinir* (cf. Fn 10 above), the definite morpheme should be *-inir*. But, instead of the potential quadrisyllabic forms *\*strákar-inir*, *\*stráka-ina*, we get trisyllabic ones: *strákarnir*, *strákana*, etc. And in the dative plural *strákunum* and *stúlkunum*, potential /mn/ clusters are simplified to /n/: [strau:kynym], [stułkynym]. The phonological relations involved are somewhat special, and in fact there are other allomorphs of the definite morpheme which lack the ‘stem-vowel’, even after consonantal stem endings, as in *bátnum* [pauhtnym] ‘the boat-DAT’ (from *bátur* [pau:tyɾ] ‘boat-NOM’), *bílnum* [pilnym] ‘the car-DAT’ (from *bíll* [pitł] ‘car-NOM’), and *slagnum* [stlaknym] ‘the fight-DAT’ (from *slagur* [stla:ɣyɾ] ‘fight’).

The question arises whether the difference in the phonological patterns of vowel deletion between definite forms and other inflectional forms might be due to the fact that the definite inflection belongs on a level different from that of other types of inflection. Thus, it might be suggested that the definite article is some sort of clitic, added to fully case inflected forms (*strákar+(h)inir*), and thus follows different phonological patterns from other types of morphology. However, most other rules or constraints applicable in normal inflection and derivation are also applicable in definite forms. Thus in *strákarnir* [strau:ka(r)tniɾ] we have /t/-insertion, and in the dative forms *bátnum* [pauhtnym] ‘the boat-DAT’, *bílnum* [pilnym] ‘the car-DAT’, and *slagnum* [stlaknym] ‘the fight-DAT’ we have preaspiration and occlusion, as well as the ‘lexical’ version of the length rule, giving a short vowel (and preaspiration) in *bátnum* [pauhtnym]. This strongly suggests that the definite inflection must be seen as belonging to the lexical part of the phonology. (And as suggested in Árnason (2005a: 306–9), it seems that the most natural way of looking at the definite forms of nouns is as having simplex endings forming a separate sub-paradigm for the nouns.)

Like Icelandic, Faroese distinguishes between definite and indefinite case forms, and mutatis mutandis, the definite paradigms in MF follow similar patterns to the Icelandic ones. According to Thráinsson et al. (2004: 94), the definite inflection involves the addition of a morpheme to the inflected form of the noun. This is made transparent in the written-form of paradigms like the ones in (12.42):

## (12.42) Indefinite

	<i>armur</i> ‘arm’	<i>barn</i> ‘child’	<i>eyga</i> ‘eye’
Definite			
NOM.SG	<i>armur-in</i> [a.ɾmʊ.ɪn]	<i>barn-ið</i> [patnɪ]	<i>eyga-ð</i> [ei:ja]
ACC.SG	<i>arm-in</i> [a.ɾmɪn]		
DAT.SG	<i>armi-nun</i> [a.ɾmɪnʊn]	<i>barni-num</i> [patn(ɪ)nʊn]	<i>eyga-num</i> [ei:ja]
NOM.PL	<i>armar-nir</i> [a.ɾmaɾɪ]	<i>børn-ini</i> [pœtnɪnɪ]	<i>eygu-ni</i> [ei:jʊnɪ]
DAT.PL	<i>ørmu-num</i> [œ.ɾmʊnʊn]	<i>børn-unum</i> [pœtnʊnʊn]	<i>eygu-num</i> [ei:jʊnʊn]

But there are complications, and the phonological forms are often quite different from what the spelling implies.

Thus the phonological form of the neuter definite ending is *-i* spelled *-ið* after a consonant: *barn* [patnɪ] ‘a baby’ – *barnið* [patnɪ] ‘the baby’. As in Icelandic, this vowel should be deleted after another vowel, as in *eygað* [ei:ja] ‘the eye’, in fact making the definite form homonymous, because of the ‘silence’ of the *ð*, with the indefinite form *eyga* [ei:ja] ‘an eye’. But a disyllabic form /eijaji/ (*eygaðið* according to the standardized spelling) is commonly used, copying the /-ɪ/ on the model of *barn* [patnɪ] ‘child’ – *barnið* [patnɪ] ‘the child’ (cf. Thráinsson et al. 2004: 97). In the plural, these nouns are trisyllabic: *eyguni* [ei:jʊnɪ], *børnini* [pœtnɪnɪ] for the nominative and accusative; *eygunum* [ei:jʊnʊn], *børnunum* [pœtnʊnʊn] for the dative. But disyllabic forms occur in other comparable forms, as for example in the DAT.SG of words with stems ending in vowels, like *hýur* [bʊi:jʊɪ] ‘town’, *bøur* [pœœ:vʊɪ] ‘home field’, *staður* [stɛa:vʊɪ] ‘place’: *býnum* /pʊinʊn/, *bønum* /pœœ:nʊn/, *staðnum* /stɛa:nʊn/. (DAT.SG.DEF) Also, the DAT.SG.DEF ending in words like *bátinum* ‘the boat’, *húsinum* ‘the house’ is commonly mono-syllabic: [pɔɑ:tʊnʊn] and [hʊu:sʊnʊn] instead of [pɔɑ:tɪnʊn] and [hʊu:sɪnʊn], as implied by the standard spelling and the handbook analysis.

These phenomena call for further investigation than there is room for in this context, but in general the definite endings of MF seem to conform to the same word-phonological constraints as other inflectional endings, and the syllables in question can in fact be classified as restricted syllables in the sense defined in section 9.2.4.

## 12.8 INTERSYLLABIC GLIDES AND FRICATIVES IN ALLOMORPHY

It was shown in section 5.4.1 that there are patterns in Faroese phonology determined by rules for the insertion of glides in hiatus, which in turn is due to a historical deletion of intervocalic voiced fricatives. There are two such rules. After high vowels (i.e. diphthongs or monophthongs ending in phonetic [i] or [u]),

homorganic glides are inserted in forms like *góður* [kɔu:wɔɪ] ‘good’ and *deyður* [tɛi:jɔɪ] ‘dead’ (5.13a). But a different rule (5.13b) applies after non-high vowels, so that the following vowel governs the quality of the glide, giving labiodentals [v] before /ʊ/ in *glaður* [klɛa:vɔɪ] ‘happy-MASC.SG’, *legu* [lɛ:vɔɪ]/[lɛ:və] ‘a place to lie-DAT’ and [j] before /ɪ/ in *gláðir* [klɛa:jɪɪ] ‘happy-MASC.PL’.

To the extent that forms with high vowels before hiatus alternate with forms with other types of interludes, the first type of glide insertion may cause morphophonemic variation between glides and postvocalic stops, as in *sig* [si:ja] ‘to say’ *segði* [sei:jɪ] ‘said’ vs *søgdu* [sɔt:ɔ] ‘said-PL’; *deyður* [tɛi:jɔɪ] ‘dead’ – *deytt* [tɛ<sup>h</sup>t:] ‘dead-NEUT’; *løg* [lɔ:jɪn] ‘odd’ – *løgnan* [lœknan] ‘odd-ACC’; *rógva* [rɛkva] ‘to row’ – *róði* [rɔu:wɪ] ‘rowed-SG’ – *róðu* [rou:wɔ] ‘rowed-PL’; *búgva* [pɪkva] ‘to live’ – *búði* [pɒu:wɪ] ‘lived’ – *búðu* [pɒu:wɔ] ‘live-PAST.PL’. (As can be seen in forms like *róði*, *búði*, which have back [w] before /ɪ/, glide insertion after high vowels precludes the insertion of a /j/ according to (5.13b).

As mentioned above, no glide is inserted after a non-high vowel before an /a/ in the second syllable: compare forms like *umrøða* [ʊmrɔ̃:a] ‘discussion’, *laða* [lɛ:.a] ‘to load’ (although raising can take place in such forms to [li:.ja] [ʊmrɔw.wa] (cf. section 5.4.2). But some forms have a [v] following a low vowel without a following /ʊ/, deriving historically from a labial ancestor, for example in forms such as *grava* [kɛa:və] ‘to dig’, *kavi* [k<sup>h</sup>ɛaʊ] ‘snow’, corresponding to Icelandic *grafa* [kra:və] ‘to dig’ and *kafa* [ka:və] ‘to dive’, where the spelling with *f* reflects the origin as a labial (labiodental) fricative. And this MF /v/ may be extended analogically into surroundings other than those defined by the rule in (5.13), giving forms like *søga* [sɔ:və] ‘story’, *lega* [lɛ:və] ‘a place to lie-NOM’, *fløva* [flɔ:və] ‘disc’. Here the [v] is borrowed from phonologically regular oblique forms like *søgu* [sɔ:vɔ] ‘story-OBL’, *legu* [lɛ:vɔ] ‘a place to lie-OBL’, and *fløvu* [flɔ:vɔ] ‘disc-OBL’.

Turning to Icelandic, we recall that as a rule historical fricatives remain intervocalically in MI *umræða* [ʏmraɪða] and *hlaða* [ɭa:ða], as opposed to MF *umrøða* [ʊmrɔ̃:a] ‘discussion’, *laða* [lɛ:.a]/[lɛ:.a] ‘to load’. However, as noted in Árnason (2005a: 151–2), historical /v/ and /ɣ/ may be deleted after [u] in Icelandic. Thus, as shown in (12.43), forms spelled with intervocalic *f* or *g* may be homophonous with forms spelled as having a hiatus, and as a rule the hiatus is bridged by [w]:

- |         |   |                        |
|---------|---|------------------------|
| (12.43) | <i>kúa</i> ‘cows-OBL’, <i>kúga</i> ‘to dominate’, <i>kúfa</i> ‘heaps-OBL’ | [k <sup>h</sup> u:wa]  |
|         | <i>lóa</i> ‘plover’, <i>lófa</i> ‘palm-ACC’, <i>lóga</i> ‘to slaughter’   | [louwa]                |
|         | <i>fáar</i> few-FEM.PL, <i>fág</i> ‘polishes’                             | [fauwar]               |
|         | <i>máfar</i> ‘seagulls’, <i>mágar</i> ‘brothers in law’                   | [mauwar] <sup>11</sup> |

The historical deletion of a labial and velar fricative after [u] in *kúga* ‘to dominate’ and *lóga* ‘to slaughter’ can be seen as a constraint against a melodically similar (i.e. labial or velar) consonant after [u]. But the deletion is not consistently reflected in

<sup>11</sup> See sections 4.1.5 and 9.5 for the problem of transcribing these forms phonetically.

MI paradigms, since beside the outputs shown in (12.43), there are optional variant forms like the ones in (12.44):

- (12.44) *máfar* [mau:vaʁ] beside [mauwaʁ] ‘seagulls’  
*rófa* [rou:va] beside [rouwa] ‘turnip’

Here, the labiodental /v/ implied by the spelling is actually allowed to appear, optionally as it were. And similarly a /j/ may occur before a following /t/, as shown in (12.45):

- (12.45) *mágur* [mauwɣʁ] ‘brother in law’ – *mági* [mau:ji] ‘brother in law-DAT’  
*rógur* [rouwɣʁ] ‘slander’ – *rógi* [rou:ji] ‘slander-DAT’

In the dative form *mági* the deletion of /ɣ/ is ‘bled’ by the palatalization of historical /ɣ/ before /t/ (which also takes place in forms like *haugi* [høɣji] ‘heap-DAT’, cf. section 6.2.2). It is only the sequence /wɣ/ which is totally excluded as an interlude; a form like \*/kuwɣa/ for *kúga* is ill-formed.

The result is that, as in Faroese, there are cases of alternation between glides, fricatives, and stops, as shown in (12.46):

- (12.46) *rógur* [rouwɣʁ] ‘slander’ – *rógi* [rou:ji] ‘slander-DAT’ – *rógs* [rouxs] ‘slander-GEN’  
*sjúga* [sju:wa] ‘suck’ – *sjúgðu* [sjuɣðʁ] ‘suck-IMP’ – *sognir* [sɔknɪʁ] ‘suck-PAST.PART’  
*teygja* [tʰeija] ‘to stretch’ – *teygði* [teiɣði] ‘stretched’ – *teygt* [teixt] ‘stretch-PAST.PART’  
*haugur* [høɣɣʁ] ‘pile’ – *haugi* [høɣji] ‘pile-DAT’ – *haugnum* [høɣknʏm] ‘pile-DAT.DEF’  
*svígi* [sviji] ‘bow, brace’ – *svíga* [svi:ɣa] ‘bow-OBL’ – *svigna* [svikna] ‘to bend’

The complicated conditions behind the historical developments and the synchronic situation need further clarification than we have room for here, but the data briefly summarized show that the patterns of deletion of intervocalic fricatives are the cause of various, sometimes opaque, morphophonemic complications.

## 12.9 MORPHOSYNTAX AND PHONOLOGY

### 12.9.1 Lexical and postlexical principles

It has been mentioned in the discussion of many of the patterns above that they are sensitive to the type of morphology, and it can be argued (cf. Árnason 2005a: 301–12) that there is a systematic difference in the vocabulary of Icelandic between two levels of morphological structure that relate to this phonological layering.

This is illustrated in (12.47) for a number of morphophonemic patterns. Here the left-hand column illustrates the workings of the patterns in inflection (including the

definite paradigms) and certain types of derivation, whereas the right-hand column shows that the same laws are not applicable in compounding:

(12.47) Inflection and derivation

**Short V; preaspiration**<sup>12</sup>

*lota* [lɔ:ta] ‘round’ – *lotna* [lɔhtna]  
‘round-GEN.PL’

*lítill* ‘small-MASC.SG’ – *litlir*  
[lihtliɾ] ‘small-MASC.PL’

*flatneskja* [fla<sup>h</sup>tneska] ‘platitude’  
(cf. *flatur* [fla:tvɾ] ‘flat’)

*sjúklingur* [sjuhkliŋkʏɾ] ‘patient’

**Occlusion**

*saga* [sa:ɣa] ‘story’ – *sagna*  
[sakna] ‘stories-GEN’

*hagur* [haɣʏɾ] ‘well-being’ – *hag-*  
*naður* [haknaðvɾ] ‘profit’

*segull* [sɛ:ɣʏtl] ‘magnet’ – *segli*  
[sɛkli] ‘magnet-DAT’

*dúfa* [tu:va] ‘dove’ – *dúfna* [tupna]  
‘doves-GEN’

**t-insertion**

*eyra* [ei:ra] ‘ear’ – *eyrna* [eirtna]  
‘ears-GEN.PL’

*her* [he:ɾ] ‘army’ – *hernaður*  
[hertnaðvɾ] ‘warfare’

*ferill* [fe:ɾitl] ‘process’ – *ferlar*  
[fɛrtlaɾ] ‘processes’

*grís* [kri:s] ‘pig’ – *gríslingur*  
[kristliŋkʏɾ] ‘piglet’

**Palatalization**

*þak* [θa:k] ‘roof’ – *þaki* [θa:ci]  
‘roof-DAT’

*Reykjavík* [rei:cavik] ‘the capital’  
– *Reykvíkingur* [rei:kvicɪŋkʏɾ]

**u-umlaut**

*fagna* [fakna] ‘rejoice’ – *fögnum*  
[fœknum] ‘rejoice-1.PL’

Compounding

**Long V; no preaspiration**

*brot#lenda* [prɔ:tlɛnta] ‘to crash’

*út#lendingur* [u:tlɛntɪŋkʏɾ] (lit. out#  
lander) ‘foreigner’

*út#nes* [u:tnɛs] ‘peninsula’

*bak#land* [pa:klant] ‘hinterland’

**No occlusion**

*hag#nýta* [haɣni:ta] ‘to utilize’

*hæg#látur* [haiɣlautvɾ] ‘easy going’

*of#nota* [ɔvnɔta] ‘over-use’

**No t-insertion**

*hár#næring* [haurnairɪŋk] ‘hair-  
conditioner’

*stór#læti* [stourlaiti] ‘conceit’

*gras#lendi* [kra:slɛnti] ‘grassy field’

**No palatalization**

*fúk#yrði* [fu:kɪɾði] ‘obscenities’

**No u-umlaut**

*af#urð* [a:vʏrθ] ‘product’

*far#fugl* [farfʏkl] ‘migrant bird’

<sup>12</sup> In accordance with the constraints described in Chapter 11, vowels before preaspiration are always short, but it is normal for long vowels to precede the stop when there is no preaspiration. And according to the postlexical phonology, stops following long (or normal) vowels must be onsets, regardless of what follows.

*gras* [kra:s] ‘grass’ – *grösugur*  
[krøæ:syγγʏ] ‘grassy’  
*jafn* [japn] ‘even’ – *jöfnuður*  
[jœpuvðʏʏ] ‘equality’  
*baggi* [pac:ɪ] ‘bundle of hay’ –  
*böggull* [pæk:ʏtʃ] ‘package’

**i-umlaut**

*för* [fou:r] ‘went’ – *færi* [fai:rɪ]  
‘went-SUBJ’  
*menntaskóli* [mɛntaskouli] ‘high  
school’ –  
*menntskælingur* [mɛntscailɪŋkʏʏ]  
‘high school student’

**Vowel deletion**

*reipi* [rei:pɪ] ‘rope’ – *reipum*  
‘ropes-DAT’  
*akur* [a:kʏʏ] ‘field’ – *akri* [a:krɪ]  
‘field-DAT’

*fram#burður* [frampyrðʏʏ]  
‘pronunciation’

**No i-umlaut**

*stór#yrði* [stou:rɪrði] ‘big words’

**No vowel deletion**

*veldi#ás* [vɛlʏti.aus] ‘axis’  
*akur#yrkja* [a:kʏrɪtʃa] ‘agriculture’

We see that for example preaspiration, which occurs in the inflected form *litlir* [lɪhtlɪʏ] ‘small-PL’ and the derived form *flatneskja* [flahtnesca] ‘platitude’, does not show up in the compound *brott#lenda* [prɔ:tlɛnta] ‘to crash’ or *útnes* [u:tnɛs] ‘peninsula’. And similarly in compounds like *hagnýta* [hagnita] ‘to utilize’ and *hæglátur* [haiɣlautyʏ] ‘easy-going’ there is no occlusion of the sort that takes place in the derived word *hagnaður* [kaknaðʏʏ] ‘profit’ and in *segli* ‘magnet-DAT’. And t-insertion of the sort which takes place in the genitive singular *eyrna* [eirtna] of *eyra* [ei:ra] ‘ear’ does not occur in the compound *hárnæring* [haurnairɪŋk] ‘hair conditioner’. And so forth for umlauts and vowel deletion.

Further examples (not listed in 12.47) showing a difference between inflection and certain types of derivation involve devoicing. Thus there is devoicing of sonorants in inflected forms like *heilt* [heɪlt] ‘whole-NEUT’, vs *heilar* [hei:laʏ] ‘whole-FEM.PL’, *hreint* [rɛɪnt] ‘clean-NEUT’, vs *hreina* [rɛi:na] ‘clean-ACC.FEM’ (cf. (11.15)), which does not take place in compounds like *eintala* [eɪntala] ‘singular’ or *sumpart* [sʏmpart] ‘partly’. And in (12.1) we saw that in *dags* [taxs] ‘day-GEN’ the fricative /ɣ/ of *dagur* [ta:γγʏ] ‘day’ is devoiced before /s/, and similarly devoicing takes place in (11.15) in *hægt* [haɪxt] ‘slow-NEUT’, compare *hægur* [hai:γγʏ] ‘slow-MASC’. But this devoicing of the fricative is less likely to occur in compounds, as shown by words like *Hag#kaup* [haɣkʰøyp]/[haxkʰøyp] ‘bargain store’, *hag#tölur* [haɣtʰœlyʏ]/[haxtʰœlyʏ] ‘economic statistics’ and *veg#tylla* [vɛɣtʰɪtla]/[vextʰɪtla] ‘honour, promotion’.

Furthermore, we saw in (11.17) that there is an alternation between stops and fricatives in the paradigm of words like *djúpur* [tju:pyʏ] ‘deep’ – *djúpt* [tjuft] ‘deep-NEUT’, *skip* [sci:p] – *skips* [scɪfs] ‘ship-GEN’, conditioned by the ban against stop+aspiration in the coda, although paradigm levelling may occur, as seen in the pronunciation [scɪps] beside [scɪfs] (suggesting structure preservation). And a similar contact is allowed in compounds like *hóp#sál* [hou:psau:ɪ] ‘collective mind’,

*raup#samur* [røy:psamyɾ] ‘bragging’, *kviksandur* [k<sup>h</sup>vi:ksantɿɾ] ‘quicksand’, and *aktygi* [a:kti:ji] ‘harness’; and there is no frication of /k/ before /s/ postlexically in phrases like *Ég er með BÓK sem hann á* [pou:ksemanau] ‘I have a book which belongs to him’ (cf. section 10.2.2, example (10.21f)).

It was mentioned in section 12.2 above that some alternations seen in paradigms are caused by postlexical effects, and we saw also in section 10.2.2 that the length rule has two forms, one for inflection and derivation and another one for compounds and, significantly, the length alternation which shows up in compounds may also appear in phrases. This is shown in (12.48):

- (12.48) a. *Ég lít nú* [li.tnu] ekki svo á ‘I don’t in fact look at it that way’  
           I look now not so on  
       b. *Ég bíð nú* [pið.nu] ekki lengi ‘I won’t in fact wait long’  
           I wait now not long

There is thus a principled difference between inflectional forms and derivatives on the one hand and compounds and phrases on the other, since the distribution of long and short vowels is different on the two levels. What these examples show is that alternation due to principles like the ones listed in (12.47) is lexicalized, whereas there may be other patterns which are valid in ‘later’ parts of the phonology. In other words, phonological effects in allomorphy are not ‘switched off’, as it were, when it comes to the level of phrases. Rather it is the ‘structure preserving’ and phonologically fossilized allomorphy which is limited in the way shown in (12.47).

It is interesting to note, as was pointed out by Indriðason (1994: 69–83), that some apparent derivational suffixes behave like second parts of compounds as regards the patterns in (12.47). Thus words like *sjúklegur* [sju:kleɣɿɾ] ‘sickly’, *broslegur* [prɔ:sleɣɿɾ] ‘funny (literally: smile like)’ and *sviksamur* [svi:ksamyɾ] ‘treacherous’, *raupsamur* [røy:psamyɾ] ‘bragging’ have long vowels before stops and /s/ in the manner of compounds, and a word like *haglegur* [hayleɣɿɾ] ‘well made, handy’ has no occlusion before /l/. The phonological behaviour of these words is different from that of the derivatives listed in (12.47), for example *sjúklingur* [sjuhkliŋkɿɾ] ‘patient’ and *hagnaður* [haknaðɿɾ] ‘profit’, which have preaspiration and occlusion respectively. Indriðason (1994) and Árnason (2005a: 301–5) classify suffixes like *-legur* in *sjúklegur* and *-samur* in *sviksamur* as Class II suffixes, whereas suffixes like *-ling-* in *sjúklingur* and *-nað-* in *hagnaður* are categorized as Class I.<sup>13</sup> And, as we shall see in section 13.1.2 (cf. also Árnason (1987: 143), Class II suffixes like *-legur* and *-samur* in words like *‘aumingja,legur* ‘miserable looking’ and *‘snúninga,samur* ‘bothersome’ take a secondary stress in the same way as second parts of compounds, which suggests that they have inherent stress. The Class I suffixes do not attract stress in this way, as shown by words like *‘Akur,eyringur* ‘a person from the town of Akureyri’, which has a (rhythmically regular) secondary stress on the third syllable.

<sup>13</sup> For a listing of suffixes belonging to these two categories, see Árnason (2005a: 303).

12.9.2 *Clitics*

It can be argued that the behaviour of compounds and derivation using Class II suffixes show an interesting mismatch between morphosyntax or semantics and phonology, so that lexicalization on the former level does not imply lexicalization on the latter level. But it can be said that the converse is true of the forms shown in (12.49), where pronominal and adverbial forms are phonologically cliticized (see also section 9.3.3.):

- (12.49) a. *Ég treysti honum* [t<sup>h</sup>reistɔnum] *ekki*  
           I – trust – him – not  
           ‘I don’t trust him’  
       b. *Ég treysti þeim* [t<sup>h</sup>reistɪðeim] *ekki*  
           I – trust – them – not  
           ‘I don’t trust them’  
       c. *Ég var þar* [varðar] *í gær*  
           ‘I was there yesterday’  
       d. *Ég fór til hans* [t<sup>h</sup>ɪ:lans] *í gær*  
           I – went – to – him  
           ‘I visited him yesterday’  
       e. *Ég fór tilðeirra* [tɪlðeɪra] *í gær*  
           I – went – to – them – yesterday  
           ‘I visited them yesterday’

In (12.49a), the 3.SG.M.DAT pronoun *honum* has the reduced form *’onum*, forming one phonological word with the verbal form *treysti*. So, just as /h/ does not occur word internally in traditional noncompound words, the /h/ of *honum* is deleted in the clitic form in *treysti honum* [t<sup>h</sup>reistɔnum] ‘trust him’. The vowel initial clitic form *’onum* causes deletion of the final vowel of *treysti* *honum*. Similarly, the 3.PL.DAT form *þeim* has the form *ðeim* in (12.49b), and the adverb *þar* has the form *ðar*.

As shown in Árnason (2005a: 448–51), clitic constructions of the sort exemplified in (12.49) adhere to phonotactic constraints valid for the lexical level (cf. section 9.3.1). Thus, just as /h/ does not occur in traditional noncompound words, the /h/ of *honum* is deleted in the clitic form in [t<sup>h</sup>reistɔnum] (12.49a), and just as [θ] is excluded from occurring word-internally between vowels in the traditional vocabulary, the clitic forms for the pronoun *það* and the adverb *þar* take the form [ðɑ:ð] and [ðɑ:r] (cf. 12.49b, c, e). And in (12.49a) we see that the vowel initial clitic form *’onum* causes deletion of the final vowel of *treysti*, giving [t<sup>h</sup>reistɔym] according to the same principle of deletion as in the inflection of verbs like *heita* and *kalla*, shown in (12.37) above. Thus the *-i* of *treysti* is deleted before the /ɔ/ of the clitic in the same way as the *-i* and *-a* belonging to the verbal stems *heiti-* and *kalla-* before the ending vowel in *köllum* [k<sup>h</sup>œtlym] (< #kalla+um#) ‘we call’, *heitum* [hei:tym] (< #heiti+um#) ‘we are named’.



Faroese also has cliticized pronouns which are attached to preceding words. Thus in (12.50) prepositions and pronouns have merged into what may look like inflected prepositions:

- (12.50) *til tað* [tʰɪlta] / [tʰɪ:lʰɛa:] ‘to that’  
*hjá honum* [ʰjɔ:nun] / [ʰjɔa:hɔ:nun] ‘with him’  
*hjá mær* [ʰjɔm:aɪ] / [ʰjɔa:mɛ(a):ɪ] ‘with me’  
*frá mær* [frɔm:aɪ] / [ʰrɔa:mɛ(a):ɪ] ‘from me’

An example showing a similar contraction between a pronoun and a verb is shown in (12.51):

- (12.51) *Tað kann tað* [tʰɛa'kʰanta] / [tɛa'kan'tʰɛa:]  
 That (it) can it  
 ‘It can’

Here the pronouns form single feet with their anchors, with contraction in the stressed syllables and reduction in the second syllables, giving forms like /kanta/, /ʰjɔm:aɪ/, and /ʰjɔa:nun/, which conform to the word-phonological pattern of underived words, with long or short vowels conforming to the normal MF vowel phonotactics described in section 5.1. In a form like /tilta/ and /kanta/, the stop belonging to *tað* ‘it’, which has aspiration in an independent form [tʰɛa:], is unaspirated in the foot-internal position. And furthermore the melodic characteristics of the second syllables conform to the limits valid for the restricted syllables, as described in section 5.5). Still it seems that the preposition and the pronoun can be pronounced separately, as suggested by the variant forms. (See sections 14.4.1 and 14.4.2 for some discussion of post-lexical sandhi in Icelandic and Faroese.)

### 12.9.3 Fossilized and non-fossilized patterns in Faroese

It was noted in section 5.1.2 that the patterns seen in the alternation between long and short vowels in the inflection looks very much like a fossilized morphophonemic pattern. Thus the alternation *stórir* ‘big’ [stɔu:ɪɔɪ] / [stœu:ɪɔɪ] / [stœuɪɔɪ] ‘big’ vs *stórt* [stœ.ʏ] ‘big-NEUT’, *størri* [stœɪ:ɪ] ‘bigger’, *størstur* [stœ.ɹstʊr] ‘biggest’, which have a vocalic correlation [ɔu:]/[œu:]/[œu:] – [œ] as part of the pattern of inflections, is reminiscent of the patterns of strong verbs like *strúka* [struu:ka] ‘to stroke, dash about’, *stýkur* [stʊi:kʊɪ] ‘stroke, dash about 2/3.PRES.SG’ – *streyk* [strei:k] ‘stroke, dash about PAST.SG’, *struku* [stru:kʊ] ‘stroke, dash about PAST.PL’, *strokið* [strɔ:ʧɪ] ‘stroke, dash about PAST.PART’. Thus, it was suggested that such patterns of alternation between vowel pairs like /ea/ – /a/, /ɔa/ – /ɔ/, /ɔu/ – /œ/, /uu/ – /ʏ/, /ei/ – /ɛ/, which are phonotactically conditioned to occur in open and closed syllables respectively, should be seen as forming morphophonemic paradigms of essentially the same type as umlaut and ablaut patterns.

It was noted that the MF long vs short correspondences behaved differently in different inflectional and word formational relations. Most of the examples cited in (5.1) (p. 68) involve an alternation between masculine and neuter forms of

adjectives, such as *spakur* [spea:(<sup>h</sup>)kʊɹ] ‘calm-M’ vs *spakt* [spa(<sup>h</sup>)kt] ‘calm-N’, *tómur* [t<sup>h</sup>ʊu:mʊɹ] ‘empty-M’ vs *tómt* [t<sup>h</sup>œmt] ‘empty-N’, etc., where the addition of a /t/ representing the neuter creates short environments that gender. Another example of such an alternation between open and closed syllables is that between a nominative form like *gamal* [kɛa:mal] ‘old-MASC.NOM.SG’ and an accusative *gamlan* [kamlan] ‘old-MASC.ACC.SG’, where the deletion of the second vowel of a disyllabic stem /gamal-/ before a vowel in the ending gives the allomorph /gaml-/ with a closed syllable in the accusative; and in the DAT form *gomlum* we have an allomorph with u-umlaut.

It was also shown in section 5.1.2 (pp. 72–73) that analogical levelling commonly creates overlong syllables in (marginal) genitival forms like MF *báts* ‘boat’ /pɔɑ:.t.s/ and compounds like *bátsmaður* [pɔɑ:(<sup>h</sup>)tsmɛaʊʊɹ] ‘boatman, crew member’ and *bátsfiskur* [pɔɑ:(<sup>h</sup>)tfiskʊɹ] ‘boatfish, a share of fish belonging to the boat’. Only exceptionally, as in the case of *bátssegl* [pɔ<sup>h</sup>tsekl] ‘boat-sail’ and *dalsbotnur* [talspɔ<sup>h</sup>tnʊɹ] ‘end of a valley’ (cf. *dalur* [tɛa:lʊɹ] ‘valley’), does the long–short correlation follow the historical pattern. To the extent that genitival forms exist in Modern Faroese, they seem to have the long and diphthongal vocalism – [stɔu:ls], [tɔu:ms], etc. – in spite of the fact that clusters like /ls/ and /ms/ define ‘short’ environments in forms like *hálsur* [hɔlsʊɹ] ‘neck’ and *ymsastaðni* [imsastɛa:nɪ] ‘in various places’. And compounds like *stólbak* [stɔu:(<sup>h</sup>)lpeak] ‘back of a chair’, *sólber* [sɔu:(<sup>h</sup>)lpe:ɹ] ‘blackcurrant’ (literally sun berry), *dómsgerð* [tɔu:(<sup>h</sup>)msʃɛ:ɹ] ‘act of judgement’, and *dómpróstur* [tɔu:(<sup>h</sup>)mprɔustʊɹ]/[tɔu:(<sup>h</sup>)mprɛstʊɹ] ‘cathedral priest’, *dómkirkja* [tɔu:mtʃɪɹʃa] ‘cathedral’ all have long vowels. Exceptions from this are word-formationally quite un-transparent forms like *sólja* ‘buttercup’ (cf. Icelandic *sóleyja* ‘buttercup’), pronounced [sœlja] although historically related to *sól* ‘sun’, showing that the phonologically fossilized patterns are valid only in special types of word structure.

## 12.10 CONCLUSION

Many of the patterns discussed in this chapter are shown to be restricted to applying in some morphological relations but not in others. Thus, as shown in (12.47), there is no u-umlaut in MI compounds like *framburður* ‘pronunciation, although derived words like *jöfnuður* ‘equality’ (cf. *jafn* ‘even’) and inflected forms like *börnum* ‘children-DAT’ follow the umlaut pattern. And alternations involving preaspiration and the lexical version of the length rule are valid in derived words (Level I) like *vakna* [vahkna] ‘wake up’ (cf. *vaka* [va:ka] ‘be awake’), *sjúklingur* [sjuhkliŋkʏɹ] ‘patient’ (cf. *sjúkur* [sju:kʏɹ] ‘sick’), and *metnaður* [mɛhtnaðʏɹ] ‘ambition’ (cf. *meta* [mɛɛ:ta] ‘evaluate’), and inflected forms like *jötni* [jœhtnɪ] ‘giant-DAT’, but not in compounds like *út#lendingur* [u:tɫɛntiŋkʏɹ] (lit. out#lander) ‘foreigner’, nor in postlexical constructions.

And Faroese patterns like the ‘long’ vs ‘short’ paradigms are similarly restricted to special, more ‘fossilized’ circumstances like *bátssegl* [pɔtsekl] ‘boat-sail’ *dalsbotnur* ‘end of a valley’, *sólja* [sœlja] ‘buttercup’, whereas transparent compounds like

*dóms#gerð* [tɔu(:)mstʃɛɪ] ‘act of judgement’ show the more common pattern, being faithful to the structure of the constituent parts.

The common thread here is that the fossilization of phonological patterns connects with morphological layering: lexicalization of derived words and grammaticalization of inflectional paradigms. The inflection and derivation with Level I, using Class I suffixes, in Icelandic is more deeply rooted in the lexicon, and at times both the formal and semantic transparency is limited. In some cases of Level I derivation the relation to the constituent parts looks fairly obvious, as in MI *hagnaður* ‘profit’, cf. *hagur* ‘well-being’, but it may seem less likely that a word like MI *böggull* ‘package’ is directly associated with the form *baggi* ‘bundle of hay, burden’. And similarly, the relation between MF *sólja* [sœlja] ‘buttercup’ and *sól* [sɔu:l] ‘sun’ may be phonologically (and semantically) rather opaque (compared to the more transparent Icelandic *sól#eyja* ‘buttercup, literally *sun#island*’).

But we have also seen that things ‘happen’ phonologically in compounding, or at the phrasal level, that is in compounds like *rauðvín* [røýðvin] ‘red wine’ with a short vowel, and the phrases in (12.48). And furthermore, there are forms in MI which show that the borderline between Level I morphology on the one hand and compounding and phrasal structure on the other may be crossed. Thus MI compounds like *vitlaus* [vihtlœys] ‘stupid’ and *máltíð* [mauhtiθ]/[maultiθ] ‘meal’ are ambiguous. As can be seen, the former word has a short vowel and preaspiration. Still, the spelling implies a rather transparent relation to forms like *vit* ‘wisdom’ and *laus* ‘free, lacking’. In the noun *máltíð* we have double forms, so that the pronunciation is either [mauhtiθ] or [maultiθ]. Here, the choice is between devoicing in the manner of Level I, in inflectional forms like *heilt* [heiłt] ‘whole-NEUT’, or no devoicing as in Level II, that is compounds like *mált#teki* [maultaicɪ] ‘idiom (literally: language-tool)’.

The same sort of movement between levels can happen in Icelandic place-names. Thus *Stað#nes* ‘the name of a peninsula (*literally*: stave-ness)’ and *Vot#múli* ‘the name of a farm (*literally*: wet cape)’ have variant forms. Beside [stavnɛs] and [vɔ:tmuli], which follow the compound pattern, these words can follow the patterns of Level I and take the phonological forms [stapnɛs] with occlusion and [vøhtmulɪ] with vowel shortness and preaspiration. Furthermore, the name of the country, *Ís#land* ‘Iceland’ is sometimes pronounced with a short vowel [istlant], according to the lexical version of the length rule, and sometimes with a long vowel [i:s(t)land], according to the postlexical version of the rule. (In the latter case, t-insertion is optional, as shown by the transcription.)

It seems obvious that the phonological fossilization in forms like *vitlaus* [vihtlœys] ‘stupid’ has some relation to lexicalization. Thus although the meaning implied by the constituent parts (*vit* ‘wisdom’ and *laus* ‘less’), giving a literal translation something like ‘witless’, conforms to the basic meaning ‘stupid’, the word may be used in varied contexts, for example meaning simply ‘wrong’, as in *vitlaus bók* ‘the wrong book’. The semantic connection with the constituent parts is less obvious in this latter usage, which in fact is very common. And the word *vitlaus* forms a minimal pair with a similar adjective: *litlaus* [li:tlœys] ‘colourless’, which has both a long vowel and no preaspiration and a more transparent semantic structure. In the case of place-names,

some sort of ‘semantic bleaching’ is likely to take place, and also the frequency of use by locals is most likely to play a role.

In general the data discussed in this chapter show that the relation between phonological patterning and morphological levels raises interesting questions. But although there is obviously some correspondence between phonological layering and morphosyntactic levels in our languages, it is far from being carved in stone.

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## Part V

### Rhythmic structure

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## WORD STRESS PATTERNS IN ICELANDIC AND FAROESE

### 13.1 ICELANDIC WORD STRESS PATTERNS

#### *13.1.1 Native patterns*

As shown in Árnason (1983, 1985a; cf. also Hayes 1995: 188–98), the fundamental rule for the placement of word stress in Icelandic is left-strong, analysable as a case of syllabic trochee. Examples showing typical Icelandic stress patterns are given in (13.1).

- (13.1) *hús* ['hu:s] 'house'  
*taska* ['tas'ka] 'briefcase'  
*höfðingja* ['hœv'ði<sub>1</sub>ca'] 'chieftain-GEN'  
*forusta* ['fɔ:rys,ta'] 'leadership'  
*almanak* ['alma,na'k] 'almanac'  
*akvarella* ['a:kva,rɛl'a] 'aquarelle'  
*bíógrafía* ['pij:ou,kra'fi,ja'] 'biography'  
*óboðlegur* [ou:pɔðlɛγγʁ] 'unpresentable'  
*hálfbróðir* [haul'(v)prouðɪr] 'half brother'<sup>1</sup>

Example (13.2) shows the metrical analysis by Hayes (1995: 190) of respectively monosyllabic, disyllabic, and trisyllabic simple forms:

- (13.2) a.            b.            c.  
           (x )        (x )        (x )  
           (x.)      (x.) (x.)    (x.) (x.)  
           taska    akvarella    bíógrafía

As can be seen, the main rule is simple, and we notice that loanwords like *akvarella* 'aquarelle' and *bíógrafía* 'biography' can follow the same pattern as the native words. In examples like *höfðingja* ['hœv'ði<sub>1</sub>ca'] 'chieftain-GEN', *forusta* ['fɔ:rys,ta'] 'leadership', the secondary stresses can be taken to be rhythmically motivated, caused by what in Árnason (1985a) is called strengthening, which creates alternating stress. Such rhythmically strengthened syllables can rhyme with fully strong syllables in poetry, as shown in (13.3):

<sup>1</sup> As indicated by the transcription, which corresponds to a very clear style of utterance (a 'word list style'), the stress has a lengthening effect, here indicated by the full length mark ':' on fully stressed vowels and the half length mark '·' on fully stressed codas and secondarily stressed vowels.



- (13.3) Þessa hátíð gefur okkur *Guð*  
 Guð, han veitir allan lífsfögnuð  
 'This holiday is given to us by God  
 God, he gives us all joy of life'

(Matthías Jochumsson: *Jólin 1891*)

Here the last syllable of *lífs#fögnuð* 'joy of life (literally: life-GEN+joy-ACC)' in the second line rhymes with *Guð* in the first line. (In the alternating pattern: ['lif'sfæk,nɣ'θ], the inherent stress of the first syllable of *fögnuð* 'joy' (['fæk'nɣθ] when uttered as an independent word) has been reduced for reasons of eurhythmty.

Morphological structure in compounds can also affect the stress contour. Example (13.4) shows examples of compounds with alternating stress:

- (13.4) *forða#búr* ['fɔɾða,pur] 'storage room'  
*ferða#maður* ['fer'ða,ma'ðvɾ] 'traveller (literally: travel-GEN.PL#man)'

The second parts of these compounds: *búr* 'pantry' (here prefixed by *forða* 'supplies-GEN') and *maður* 'man' (preceded by *ferða* 'travel-GEN.PL') occur as independent words, and as expected, they take secondary stress. But in (13.5) we have examples of compounds with secondary stress on the fourth syllable:

- (13.5) a. *forustu#sauður* ['fɔɾystystɿ,sœy'ðvɾ] 'leading sheep (literally: leadership-GEN#sheep)'  
 b. *höfðingja#vald* ['hœvðiŋca,valt] 'aristocracy (literally: chieftains-GEN#power)'  
 c. *framsóknar#flokkur* ['framsouhknar,flohkvɾ] 'progressive party (literally: progress-GEN#party)'

In these forms there is no 'strengthening' of the third syllable of the first parts, because of the inherent strength of the second parts. And as shown in Árnason (1987: 143) some derivational suffixes, so-called 'strong' or Class II suffixes (cf. section 12.9 above), behave like the second parts of compounds. This applies to the suffixes *-legur* and *-samur* in words like *'aumingja,legur* 'miserable looking' and *'snúninga,samur* 'bothersome', which have a secondary stress on the fourth syllable, in the same way as the second parts of compounds like *'höfðingja, vald* and *'forustu, sauður*. These affixes thus seem to have the same type of 'inherent' strength as regular word stems, and to retain it when joining other morphemes. This is different from other suffixes, such as *-ingur* in words like *Akurnes#ingur* ['a:kvɾ,nɛ'siŋ,kvɾ] 'an inhabitant of Akranes (the town)', which do not take a secondary stress, except when rhythmically motivated, as in *Langnesingur* ['laŋknɛs,iŋkvɾ] 'an inhabitant of Langanes'.

Icelandic word stress is thus determined on one hand by general rhythmic laws, and on the other by morphological structure. Words like *boð#legur* ['pɔð'le,ɣvɾ] 'presentable (literally: present#ly)' and *ó#boð#legur* ['ou:pɔð,leɣvɾ] 'unpresentable' furthermore show that the second parts of compounds can be affected by rhythmic laws, since the most natural pattern for *óboðlegur* is with main stress on the first

syllable, but secondary stress on the third one. This means that the 'inherent' stress on the first syllable of *boðlegur* is not realized following the stress on the prefix *ó-*. The third syllable then becomes the first syllable of a new foot, creating a secondary stress on *-leg-*.

We have seen in (13.1) that loanwords like *almanak* 'almanac' may follow the alternating pattern predicted by left to right assignment of trochaic feet. This was the case with *'akva,rella* and *'bíó,graffa*. But this does not apply to all loans, since some have dactylic rhythm at the left edge. Such examples are given in (13.6):

- (13.6) *karbórátor* [<sup>h</sup>k'ar'pou<sup>a</sup>r<sup>h</sup>ɔ'ɾ] 'carburator'  
*Rachmaninoff* [<sup>h</sup>rah'kmani<sup>h</sup>nɔf] 'the composer'  
*Aristóteles* [<sup>h</sup>a:ɾistou<sup>h</sup>tʰɛ'les] 'Aristotle'  
*aristókrat* [<sup>h</sup>a:ɾistou<sup>h</sup>k'ra't] 'aristocrat'

These words are stressed as if they were compounds made of constituents like *karbóra-* and *-tor* and *aristó-* and *-krat*, etc. with the secondary stress deriving from independent morphemes as in *höfðingja#vald*. Also the plosives in *-tor* and *-krat* are aspirated in the soft variety, indicating that they are foot-initial. In other words, they form what have been called pseudo-morphs, and the words correspondingly pseudo-compounds (cf. Árnason 1999: 375).

According to this interpretation, word-formationally non-transparent loans imitate the morphophonemic structure of native words that can be analysed as concatenations of separately occurring morphemes. A further example of the same thing is the word *'alma,nak* 'almanac', which has a secondary stress on the third and last syllable. It might seem that a natural way of analysing this would be in terms of rhythmic, rather than pre-assigned, footing, that is with the secondary stress assigned postlexically. But closer inspection shows that this is not the case. In the compound *plat#almanak* [<sup>h</sup>pla:talma<sup>h</sup>na'k] 'fake almanac', where a morpheme (*plat* 'deception') has been added at the beginning, the secondary stress on *-nak* remains when the initial stress is put on the first syllable, and the stress on the initial syllable of *almanak* deleted. Furthermore, when this word inflects, the second part behaves like the second part of a compound. The plural of *almanak* [<sup>h</sup>al'ma<sup>h</sup>na'k] is *almanök* [<sup>h</sup>al'ma<sup>h</sup>nœ'k], and the pattern is the same as in the compound *matar#gat* 'glutton (literally: food#hole)', which gets the plural *matargöt* [<sup>h</sup>ma:tar<sup>h</sup>kœ't], reflecting the fact that the plural of *gat* 'hole' is *göt* with u-umlaut of the stem vowel. The u-umlaut only goes as far back as the morphological boundary, and such a 'pseudo-boundary' seems, then, to be present in *almanak*.<sup>2</sup>

<sup>2</sup> In the light of cases like *almanak*, where the originally rhythmic stress on *-nak* has been lexicalized, the question arises as to the status of inflectional endings like the third and last syllable of word forms like *höfðingja* 'chieftain-ACC', which typically has a secondary stress when no stress follows. It is argued in Árnason (1985a) that the strengthening which can be observed on this syllable is postlexical or rhythmically motivated, and Hayes (1995: 192) suggests that the observed strength is due to final lengthening. (The secondary stress does not appear when a strong syllable follows, as in the compound *höfðingjaval* in (13.5b). But there may seem to be more reason to consider the possibility of assuming a second stress foot for

The examples we have seen suggest that the following forms behave phonologically as if they were independent morphs (pseudo-morphs) in spite of the fact that they do not seem to have any clearly definable meaning:

(13.7) *-tor, -noff, -nak, -krat, -teles*

We have seen that a prefix like *ó-* in *óboðlegur* ‘unpresentable’ can take the initial stress. But there are principled exceptions from this regularity, illustrated by the forms in (13.8):

(13.8) *Hann er hálf-leiðinlegur* [hauv'lei:ðinle ʏʏr]

He is rather boring (literally ‘half-boring’)

*Hann er ó-vitlaus* [ou'vɪh'tlæʏs]

He is not stupid (literally: ‘he is un-stupid’)

In the forms *hálf-leiðinlegur* and *ó-vitlaus*, the main stress falls on the stem, unlike in forms like *óboðlegur* and *hálfbróðir* listed in (13.1). As argued in Árnason (1987), unstressed prefixes like *hálf-*, *ó-*, and some others often have a special function, and although they seem to be morphologically bound, they do not form phonological words with their morphological anchors. Thus we have a mismatch between morpho-syntax and phonology, so that the morphological unity of the word does not fit the phonological phrasing, somewhat like in the emphatic rephrasing mentioned in sections 8.1.3 and 9.1.5 above (cf. sections 13.3.1 and 14.3.1 below). If the prefixes in (13.8) are taken to be phonologically free, the stress relation between the stem and the prefix is automatically accounted for by the interplay of initial word stress in *leiðinlegur* and *vitlaus* and the sentence stress pattern which places the nuclear accent on the last word.<sup>3</sup>

### 13.1.2 Foreign patterns in recent loans

The loanwords listed in (13.6) can be said to be relatively well adapted, following the normal phonological and phonotactic patterns of native words. But some recent borrowings and foreign names, showing stronger interference from the lending language, behave differently in often having non-initial stress. Some such forms are listed in (13.9):

(13.9) *Securitas* [se'ku:ritas] / [se'cu:ritas] ‘the name of a security company’

*Gevalia* [ke'va:lija] ‘a coffee brand’

*Toyota Corolla* [tʰɔi'joutakou'rɔl:a] ‘the car make’

*experimental* [exspeɪ'mɛntal] ‘experimental’

the quadrisyllabic *bókarinnar* ‘the book’, where the third syllable belongs to the definite article. Here the secondary stress seems to be more stable.

<sup>3</sup> Examples like: *Hann er hálf-andskoti-leiðinlegur* ‘He is half-fucking-boring’ and *Ég var ó-undir-betta-búinn* ‘I was un-for-this-prepared; I was un-prepared for this’ show that syntax and morphology can be intertwined so that forms may be inserted in the middle of ‘words’.

It might be suggested that these are simply foreign forms that belong outside the Icelandic system and should not be taken as symptomatic of structural properties of Icelandic; the usage might be classified as some sort of code-switching. But we cannot say that these forms follow the patterns of some other totally foreign phonological system, for example that of English, where they most likely originate. Apart from the stress pattern, they have Icelandic rather than English sounds. The normal pronunciation of a form like *Corolla* [k<sup>h</sup>ou'rɔl:a] for example has a typically Icelandic [ou] and an Icelandic [r] rather than, say, an English [ɹ]. And in (13.10) words like *instrumental* and *experimental* as parts of an Icelandic text have mostly Icelandic sounds:

- (13.10) a. *instrúmental tónlist* [ĩ'stru'mɛntal't<sup>h</sup>oul:ɪst] beside ['ĩ:stɹumɛntal't<sup>h</sup>oul:ɪst]  
 'Instrumental music'  
 b. *experimental notkun* [ɛxspɛr'mɛntal'nɔtkʏn] *á netinu*  
 'Experimental use of the net'  
 c. *Þetta er dálítið extreme* [ɛx'stri:m]  
 'This is a bit extreme'  
 d. *Þetta er extreme dæmi* ['ɛx'strim'tai:mɪ]  
 'This is an extreme example'

Similarly in cases like (13.11), a part of an actual utterance giving directions for the location of a restaurant, the English phrase or compound *tourist information* has an English stress pattern with penultimate stress on *information*, but otherwise Icelandic phonological patterning. Thus there is nasal deletion before the voiceless [f] in *information* [ĩv̥fɔr'mei:sjɔn], and the word inflects, taking the definite ending -ið.

- (13.11) ...*þar sem tourist information-ið er* ['θas:ɛn't<sup>h</sup>urɪstɪv̥fɔr'mei:sjɔnɪðɛːɹ]  
 '... where the tourist information is'

But there is an interplay with phrasal stress, as shown by the fact that when the word *extreme* is placed before a word stress, as in (13.10d), the stress is shifted to the left (in the same way as the well known 'rhythm rule' in English shifting the stress of *thir'teen* in examples like *'thirteen 'men*). We return to the problem of analysing these forms in section 13.3 below.

## 13.2 WORD STRESS PATTERNS IN FAROESE

### 13.2.1 Native words

The majority of native words in Faroese follow the traditional pattern, that is with main stress on the first syllable. Lockwood (1955: 8) gives the following examples, which are reminiscent of Icelandic:

- (13.12) 'tómur 'empty'  
 'hestarnir 'the horses'  
 'til#,biðja 'worship' (literally: 'to#pray')

'onga#,staðni 'nowhere (literally no#place)'

'seyða#,fylgi 'flock of sheep' (literally: 'sheep#following')

According to Lockwood the first syllable of the second part of a compound gets secondary stress, as in 'til,biðja, and Thráinsson et al. (2004: 28) note that there is a conflict between morphological and rhythmic patterning in compounds, like Ísland 'Iceland' and even derived words like íslendskur 'Icelandic' can have a secondary stress on the second syllable.

According to the analysis proposed in section 9.2.4, forms like ítrótt ['oi:trɔ<sup>h</sup>t] 'sports', bláloft ['plɔ:ɫɔft] '(blue) sky' have two full syllables, and the stress pattern is such that the first one takes the word stress, and the second one is weak accordingly. And rhythmic effects seem to be common, so that words like 'við#víkj,andi 'concerning (literally: to#applying)', benkinun ['pɔiŋtʃi,nun] 'the bench' (speaker T-1), take alternating stress. Also, forms such as the dative Føroyum [fœ:ɹjʊn] 'the Faeroes', and the adverb tíðliga [t<sup>h</sup>oiɬ.ja] 'early', where the vowels—which the spelling implies for the middle syllable—are deleted, show that alternating rhythm is a traditional feature of the phonological system. This is illustrated by the examples in (13.13):

- (13.13) Føroyum [fœ:ɹjʊn] 'the Faroes-DAT'  
 tíðliga [t<sup>h</sup>oiɬ.ja] 'early'  
 nýjfføðinginun [nɔiɬœ.jiŋtʃi,nun] 'the newly-borne-DAT'  
 kunnleika [k<sup>h</sup>ʊnlai,ka] 'acquaintance-OBL'  
 málinun [mɔ:l(i),nun] 'the language-DAT'  
 húsinun [hʊusi,nun] 'the house-DAT'  
 byggdina [pikti,na] 'the village'

In accordance with the traditional typology of syllables described in sections 5.5 and 9.2.4, the restricted syllables taking the rhythmic type of secondary stress can be classified as *leves*, whereas the fully weak or reduced syllables are *levissimi*. But as in Icelandic, secondary stress can be placed on the fourth syllable of a compound, as in tosingarlag [tɔ:singar,leɐ] 'mode of speaking', and meirvirðisgjald [mai:ɹviri,tʃealt] 'value added tax'. In these forms (as in the corresponding Icelandic ones), there is no rhythmic enhancement of the third syllable, due to the 'inherent' stress on the fourth one.

In Faroese, prefixes, such as *aftur-* 'again, re-', *and-* 'counter-', *eftir-* 'after', etc. commonly take initial stress, as in 'afturtøka 'repetition', 'andróður 'rowing against the wind', 'eftirkanna 'to examine' (cf. Thráinsson et al. 2004: 29). But as in Icelandic (cf. 13.8), prefixes can be unstressed; in fact the number of such forms is greater in Faroese than in Icelandic, and the conditions seem to be different. Thus, there seems to be a rule to the effect that words of three or more syllables which take prefixes like ó- 'un' or sam- 'together' regularly take stress on the second syllable, that is the first in the second morphological constituent. Such prefixed words with regular non-initial stress in Faroese are listed in (13.14):

## (13.14) Adjectives:

*ó#tespiligur* [ɔʊtʰɛspɪlɪjʊɪ] ‘unattractive, repulsive’*sam#bærligur* [sam'pæɪlɪjʊɪ] ‘comparable, appropriate’*marg#háttligur* [mark'hɔʰtɪlɪjʊɪ] ‘peculiar’

## Adverbs:

*ser#stakliga(ni)* [sɛɪ'stɛa:klijanɪ] ‘especially’*upprunaliga* [ʊʰp:'ru:nalija] ‘originally’*við#víkjandi* [vi'vɔi:ʃantɪ] ‘concerning’*al#ofast* [a'lɔfast] (beside [ʰal:ɔfast]) ‘most of the time’

It is, furthermore, common for compound prepositions or adverbs to have stress on the second part, as shown in (13.15):

(13.15) *afturum* [aʰtə'ɪʊm:] ‘behind (literally: after about)’*frammaná* [frama'nɔɔ] ‘in the front, in face (literally: front on)’*aftaná* [aʰta'nɔɔ:] ‘behind’*niðurav* [niʊ'ɪɛa:v] ‘down from’*niðaná* [nija'nɔɔ] ‘to the top (literally: from below up)’*afturat* [aʰtrɛa:t] ‘in addition, furthermore’

Corresponding prepositions in Icelandic take initial stress in most varieties of Icelandic: *'aftaná* ‘behind’, *'ofaní* ‘down into’.<sup>4</sup>

As suggested by the examples listed in (13.14) unstressed prefixes are most likely to occur in adverbs and adjectives, but they are less common in nouns. And near minimal pairs can be found, where prefixes take stress on nouns, but are unstressed when attached to adjectives, as shown in (13.16):

## (13.16) Nouns:

*óár* ['ɔu:ɔɔɪ] ‘bad year, difficult conditions’*óbygd* ['ɔu:pɪkt] ‘wilderness’

## Adjectives:

*ótolandí* [ɔʊtʰo:lantɪ] ‘unbearable’*ófátligur* [ɔʊfɛa:hʰtɪlɪjʊɪ] ‘incomprehensible’*ólógligur* [ɔʊ'lɔu:liʊɪ] ‘illegal’

(Thráinsson et al. 2004: 29)

Apart from these examples of non-initial stress, the stress pattern of many native compounds seems to vacillate, so that the same compound sometimes has the stress on the first part and sometimes on the second part. One such example is the noun *burðar#vektir* ‘birth weights (of infants)’, which in a careful style can either have the main stress on the first or the second component: [ʰpuɹa,vɛktɪɪ] or [puɹaʰvɛktɪɪ].<sup>5</sup>

<sup>4</sup> There is a very marginal traditional Icelandic dialect variant, associated with the Western Fjords, whereby the stress is on the last part of prepositions like *ofan* /f/ ‘down into’ (cf. Árnason 2005a: 409–10).

<sup>5</sup> Formal reading by speaker KD.

And it seems that the same goes for a compound like *almanna#hugsan* ‘public opinion’, which can either have stress on the first (*almanna* ‘public-GEN’) or the second part (*hugsan* ‘thinking’), and in certain instances it may be difficult to judge which of the stresses is the stronger.

### 13.2.2 Loanwords in Faroese

Faroese stress patterns become even more varied when loanwords are taken into account, and many such words have stress in places other than the first syllable. The general rule of thumb is that loanwords in Faroese have the same stress pattern as in Danish, which in any case is the main source of the borrowings, and according to Thráinsson et al. (2004: 29) loanwords tend to ‘preserve the foreign stress pattern’. Some examples are given in (13.17):

- (13.17) *signal* [sɪk'na:l] ‘signal’  
*fysikk* [fi:'sɪ<sup>h</sup>k:] ‘physics’  
*tapet* [t<sup>h</sup>a'pe:t] ‘wall-paper’  
*diskotek* [tɪsko't<sup>h</sup>e:k] ‘discotheque’  
*studentur* [stu'tɛntʊɹ] ‘student’  
*lærarinna* [lɛaɹa'ɹɪn:a] ‘female teacher’  
*forbanna* [fɔɹ'pan:a] ‘to swear’  
*europearar* [ɛʊɹɔ'pe:aɹaɹ] ‘Europeans’  
*amerikanari* [amɛ.ɹɪ'k<sup>h</sup>a:naɹɪ] ‘an American’  
*standardisering* [standarti'se:ɹɪŋk] ‘standardization’  
*motorur* [mo't<sup>h</sup>o:ɹʊɹ] ‘engine’  
*radiatorur* [ɹa'tia't<sup>h</sup>o:ɹʊɹ] / [ɹa'tɪ'a:to:ɹʊɹ] ‘radiator’  
*Aristoteles* [a.ɹɪs'to:tɛles] ‘Aristotle’

A special note must be made here regarding inflectional endings, such as NOM.SG. MASC *-ur*. These endings add extra syllables to forms like *peli'kanur* ‘pelican’ and *mo'torur* ‘motor’, and similarly in *ameri'kanari* ‘an American-NOM.SG’, *ameri'kanarar* ‘American-NOM.PL’, making the stress penultimate or antepenultimate. But according to the analysis proposed in section 9.2.4, these restricted syllables are unparsed phonotactically speaking (i.e. on the lexical level). In fact it seems safe to assume that, although they may be enhanced rhythmically (as well as reduced), they do not play any role in the pattern of word stress placement in Faroese. And, in fact, native words like *meirkostnaður* [ˈmai:ɾk<sup>h</sup>ɔstnavʊɹ] ‘added cost-NOM’ and (ó)*tespiligur* [(ɔʊ)t<sup>h</sup>ɛspɪlɪjʊɹ] ‘(dis)agreeable-MASC’ and *serstakliga(ni)* [sɛɹ'stɛa:klijaɹɪ] ‘especially’ can have four syllables in the final ‘window’, when restricted syllables follow forms which have antepenultimate stress when no such syllable follows, as in *'meirkostnað* ‘added cost-ACC’, *ó'tespilig* ‘disagreeable-FEM’.

## 13.3 THE ACCOMMODATION OF FOREIGN STRESS PATTERNS

From a general point of view it seems that there is more than one way in which foreign vocabulary can be treated in a borrowing language.

One possibility is to adapt the loanwords fully so that they follow the word stress rules and morphophonemic pattern of the borrowing language. This is the option taken regarding older Icelandic loans like *bíógráfía* 'biography', *akvarella* 'aquarelle' (cf. 13.1), *karbórator* ['k<sup>h</sup>arpoura, t<sup>h</sup>ɔ̃r] 'carburator' and *aristókrat* ['a:rístou, k<sup>h</sup>ra't] 'aristocrat' (cf. 13.6). Another option might be for individual loans to somehow retain their stress pattern as it was in the lending language. This might be achieved by lexical marking of each individual word so that, for example, Icelandic forms like *experi'mental*, *Se'curitas*, or *Ge'valía* in (13.9) have a special pre-assigned stress pattern in their inputs. But it is also conceivable for the borrowing language to have two systems, one native and the other foreign. (Such a 'diasystemic' structure was assumed for Middle English by Halle and Keyser 1971.) A fourth possibility is that the language develops a new stress system, a sort of compromise between the foreign and the native system, such that both native and foreign words follow the same (complex) pattern. This is commonly assumed to have been the choice made by Modern English and other Germanic languages which developed new patterns due to the influence of Romance borrowings (see e.g. van der Hulst 1999).

## 13.3.1 Right-strong forms in Icelandic

But it is also conceivable that the borrowing language retains its original system of stress rules, but applies it in a way that will somehow accommodate the stress pattern (or the presumed pattern) of the foreign words, and in fact this seems to be the strategy applied, at least for some of the recent borrowings in Icelandic, listed in (13.9) and (13.10) with a non-initial stress pattern. Non-initial accentuation can be achieved by native means, by applying the phrasal stress pattern, which is right-strong. As mentioned several times and further discussed in section 14.3.1 below, in certain styles, such as 'emphatic rephrasing', the lexicalized structure of phonological words can be reinterpreted, so that they are treated like phrases, with a right strong nuclear accent. Thus a word like *hrika#legur* 'impossible', which normally has an alternating pattern, something like ['rɪ:ka, lɛ ɣɣr] with the first foot stronger than the second, can be uttered in the way pictured in (13.18):

- (13.18) *Hann er hrika-LEGUR* [rɪ'ka'lɛɛ:ɣɣr]  
 He is terr-IBLE  
 'He is really terrible'

Here, the second part of the compound forms a phonologically independent word, which takes the nuclear accent of the utterance.

It is possible to apply this sort of analysis to examples like *Þetta er dálítið extreme* [ɛxs'tri:m] 'This is a bit extreme' and *experimental notkun* [ɛxsper'mɛntal'nɔtkʏn]



‘experimental use’ in (13.10). The right-strong pattern can be achieved by placing a sort of pseudo-boundary into the words in question: *ex#treme* and *experi#mental*, giving each syllable the status of a foot which can then be elevated to word, becoming right-strong under normal phrase accent. And in fact we saw above that the right-strong stress patterning is sensitive to phrasal conditions, since the final stress of *extreme* is likely to be moved to the first syllable in examples like (13.10d): *Petta er extreme dæmi* ['exstrim'taimɪ] ‘This is an extreme example’, avoiding a stress clash, when a word stress follows. In this type of utterance, the stress is moved from the final to the initial foot of the bipodal form /(ex)(st<sup>h</sup>rim)/.

### 13.3.2 The Faroese patterns

Although in principle, the same sort of phrasal analysis could be applied to Faroese as to Icelandic, it may well be, given the longer tradition of borrowing and the greater number of loans, that non-initial stress patterns have become lexicalized or more ingrained into the word system, so that some restructuring has taken place in the basic rules for word stress.

Looking systematically at Faroese loanwords, we seem to have examples of the placement of the word stress on any of the three (or four including endings) last syllables from the right, as shown by the examples in (13.19). Because of the special status of the restricted syllables or inflectional endings, the examples are classified according to the character of the final syllable:<sup>6</sup>

#### (13.19) Without endings

Final

*sig'nal* ‘signal’

*for'mell* ‘formal-FEM’

Penultimate (without ending)

*'nylon* ‘nylon’

*'formul* ‘formula’

*'vesi* ‘toilet’

*standardi'sering* ‘standardization’

*'vermut* ‘vermouth’

*heksa'metur* ‘hexameter’

*mas'kina* [ma'ʃina] ‘machine’

*gar'dina* [ka.ɾi.na] ‘curtain’

Antepenultimate

*fo'rargilig* ‘bad tempered-FEM’

*'Gorbachov*

*Aris'toteles*

*Rach'maninoff*

*'video* ‘video’

<sup>6</sup> See Rice (2006) for an OT analysis of similar patterns in Norwegian word stress.

With inflectional endings (restricted syllables)

Penultimate

*bar'barur* 'barbarian'

*baro'metur* 'barometer'

*pelí'kanur* 'pelican'

*for'mellur* 'formal-MASC'

*ly'rikkur* 'poetry'

*mo'torur* 'motor'

*gitta'ristur* 'guitar player'

Antepenultimate

*'gittari* 'guitar'

*ameri'kanari* 'an American-NOM.SG'

*ameri'kanarar* 'Americans'

*professari* 'professor'

Four syllable window

*fo'rargiligur* 'bad tempered-FEM'

In addition to the non-initial patterns, Faroese has loanwords with initial stress, and a secondary stress on the third syllable, for example *'posi,tivur* 'positive', *'kriti,kari* 'critic', or *'fysi,kari* 'physicist'. These words all have stress on the first syllable, creating a 'four syllable window', counting the ending. But the third syllable has secondary stress, and if the ending is excluded, these forms fit into the three syllable window.

Looking at these data it seems (ignoring the restricted syllables) as though Faroese has a 'three syllable window' for its borrowed vocabulary. And we also note that the great majority of native words in fact fit into this window. The pattern of words such as *sambæriligur* [sam'pæ:liju:] 'comparable, appropriate', *margháttligur* [mark'høhtliju:] 'peculiar', *viðvíkjandi* [vi'vøi:ʃant] 'concerning', *aloftast* [a'løftast] (beside [a'l:øftast]) 'most of the time', *ótespiligur* [øu't<sup>h</sup>ɛspiliju:] 'unattractive, repulsive', and *serstakliga(ni)* [sɛ.ɪ'stɛa:klijan] 'especially' fit into this pattern.

It is therefore obvious that Faroese loans do not adapt to the traditional word rhythm of initial stress. And if, as suggested in the handbooks, Faroese were to copy more or less mechanically the stress pattern of the lending language, this should mean that Danish loans follow the Danish pattern, English loans the English pattern, etc. There are, however, some examples where loans in Faroese get a different stress pattern from the one they have in the lending language, and yet not the native one. Examples of this are given in (13.20):

(13.20) Faroese	Danish	English
<i>wee'kend</i> 'weekend'	<i>'weekend</i>	<i>'weekend</i>
<i>radi'a'torur</i> 'radiator'	<i>radi'a'tor</i>	<i>'radiator</i>
<i>mo'torur</i> 'engine'	<i>'motor</i>	<i>'motor</i>

Here, Faroese chooses its own pattern in each case, which suggests that the language has developed a strategy of its own for accommodating the foreign vocabulary. And in

fact, this also speaks against a solution of the sort suggested for Icelandic, that is to apply the 'native' Faroese system in such a way as to imitate the foreign pattern.

On the whole it looks as if the word stress pattern of Faroese is lexically marked (and 'cyclic') in some way. Thus Faroese forms like *'fiska#sen,tralur* 'fish centre', *tele'fon#sen,tralur* 'telephone centre', show that non-initial stress in the second part of the compound in *sen'tralur* 'centre' may be preserved under left-aligned compound stress, and in *'inn#be,tala* [*ˈɪnpe,tʰɛa:la*] 'to pay in, pay an instalment', the stress on the second syllable of *be'tala* 'to pay' appears on a second cycle (although it might also be seen as due to alternating strength). Similarly, a form like *mótorbátur* [*mɔtʰɔ:r,þɔɑ:(ʰ)tʊɪ*] 'motor-boat' retains the final stress on *mótor*- 'motor' in the first part. This suggests that the Faroese stress patterns are lexicalized, belonging to the first stratum of the morphophonemic system. And although it might seem as if a special set of rules applies to the foreign stems, (regardless of their origin),<sup>7</sup> we have seen that many of the native words have joined this class, as witnessed by the examples in (13.14) and (13.16).

#### 13.4 MORPHOLOGICAL CONSIDERATIONS: FAROESE PSEUDO-MORPHOLOGY?

We have seen several instances where morphological factors have an effect on the stress patterns of Icelandic and Faroese. This type of effect influences both foot formation and the placement of main stress. We have also seen that older borrowings in Icelandic may even develop morphological pseudo-structure which can have an influence on stress patterns.

One further thing to consider here is the fact that the loanwords have to adapt to the inflectional and word formational system of the borrowing languages. This often has some phonological consequences, such as the addition of an extra syllable to the word when it is incorporated into the paradigms. In fact, it is more common in Faroese than in Icelandic for loans to adopt endings like the ones for the nominative singular of masculine nouns. Examples demonstrating this are pairs like Icelandic *'prófes,sor* (without an inflectional ending) vs Faroese *professari* (with an ending) 'professor' and Icelandic *mótor* (no ending) vs Faroese *mo'torur* (with an ending) 'motor'. Here Icelandic uses the native stress pattern but adds no native ending, whereas Faroese adds a native ending, but uses a foreign stress pattern.<sup>8</sup>

<sup>7</sup> Lexical phonology offers a means of dealing with this sort of split in the lexicon, by the Elsewhere Principle (Kiparsky 1982, 1984); the special cases (be they the words that follow the inherited pattern, or the ones that follow the new pattern) can be prespecified lexically, and exempted from the general rules of stress placement.

<sup>8</sup> The fact that a word like MI *prófessor* does not have to take a nominative ending is most likely connected to the fact that many native masculine nouns are without an ending in the nominative, cf. words like *ís* 'ice', *skúr* 'shed', *akur* 'field' (ACC: *ís*, *skúr*, *akur*). For some reason Faroese has generalized a nominative ending both in the loans and in native forms like *ísur* 'ice' and *skúrir* 'shed', etc.

The Faroese word *pro<sup>f</sup>fessari* with a 'foreign' stress but a native ending is interesting in this context. The second part of the word, *-fessari*, can be compared to forms like *fisk#ar+i*, 'fisherman'. It is natural to analyse the latter word as consisting of *fisk* 'fish' plus derivational affix *-ar-* and the nominative ending *-i*, and for all but the non-transparent *-fess-*, the last three syllables of *professari* look similar. This of course means that the morphophonemic structure of the word *pro<sup>f</sup>fessari* is native in important respects.

What is needed for the phonological accommodation of loans is proper foot structure, and proper stress placement. This can be achieved by assigning morphophonemic pseudo-structure to the forms in question, for example by assigning foot structure to both syllables of a word like Danish *gar'din* 'curtain', and exempting the whole structure from the constraint which aligns the first part of the compound with the beginning of the prosodic word. With the appropriate inflectional ending, this gives us the Faroese word *gari'dina* 'curtain'. The same can be done *mutatis mutandis* with forms like *hexa'metur* 'hexameter' and *baro'metur* 'barometer', which look as though they have a similar structure, even though the actual relation in terms of meaning is dubious.

But if we assume pseudo-structure, there is of course still a mystery to be solved, namely, how is the all-important structure assigned? Why, for example, do we get forms like *for'mellur* 'formal', *gitta'ristur* 'guitar-player', *standar'disering* 'standardisation', and *heksa'metur* 'hexameter', implying pseudo-morphs like *-(m)el-*, *-rist-*, *-ser(ing)*, and *-metur*, but not for example *git'taristur*, *standar'disering*, or *standardise'ring*, implying a different pseudo-structure?

It is often assumed that English and other languages that follow the European 'standard' in stress placement have relied on a distinction in quantity between heavy and light syllables, which then attract the word stress (Weight-to-Stress). But it is not clear that the problem is solved by setting up such a weight-distinction to account for the difference in Faroese between *sig'nal* 'signal' and *for'mell* 'formal-FEM' with final stress and words like *'nylon* 'nylon', *'formul* 'formula', and *'vermut* 'vermouth' with penultimate stress, or forms like *ma'skina* 'machine' and *gar'dera* 'to protect' with penultimate stress, and words like *'gittari* 'guitar' and *com'pjútari* 'computer' with antepenultimate stress. It would seem that a weight distinction (based on tenseness or syllabic structure) would simply be a diacritic for stress placement.

The suggestion here is that the (morpho-)phonological structure of Faroese defines a set of formatives or feet that can be used as building blocks in phonological constructions, words, or phrases, and that any form that satisfies the conditions put by that set can function as a pseudo-morph. And this fits well with the fact that in a few cases the pseudo-structure does not quite copy the contour of the original, as in (13.20).

And a look at a list of borrowings in Faroese shows a certain amount of recurrence, in that the same or similar forms crop up in more than one word. This is illustrated in (13.21):

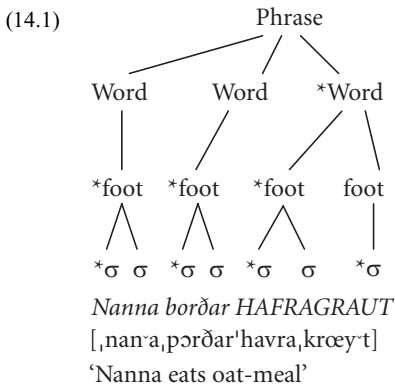
- (13.21) a. *mo'torur* 'motor'  
           *radia'torur* 'radiator'
- b. *peli'kanur* 'pelican'  
      *ameri'kanari* 'an american'
- c. *idea'listur* 'idealist'  
      *gitta'ristur* 'guitar player'  
      *geor'gistur* 'Georgist'
- d. *heksa'metur* 'hexameter'  
      *baro'metur* 'barometer'
- e. *akva'rella* 'aquarelle'  
      *salmo'nella* 'salmonella'
- f. *standardi'sering* 'standardization'  
      *lokal'i'sering* 'localization'
- g. *heilgar'dera* 'insure fully'  
      *kataly'sera* 'catalyse'
- h. *for'mellur* 'formal'  
      *aktu'ellur* 'actual'  
      *krimi'nellur* 'criminal'

In some cases a more or less exhaustive morphological analysis may even be carried out, as in the forms in (13.21c), with meaningful morphemes, something like *-ist-* and *idea* (cf. *ide'al* 'ideal'), *Georg-* and *gittar-* (cf. *gittari* 'guitar'). In other cases, the morphs cannot be identified as occurring anywhere else, but in light of the number of correspondences that can be made, any gaps in the distribution begin to look accidental.

## PHRASING AND POSTLEXICAL PHONOLOGY

## 14.1 PHONOLOGICAL PHRASING

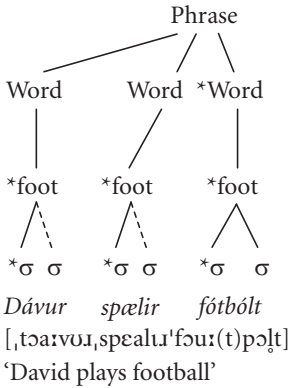
We saw in section 9.1 that the basic principles of phrasing in Icelandic can be illustrated by constructing a tree like the one in (14.1) (cf. Árnason 2005:435):



Example (14.1) shows the constituent structure of a normal phrase, pragmatically speaking, used under normal conditions or broad focus or in ‘out of the blue’ statements. Four layers of structure are assumed in the representation. The primitive units are the syllables, and they form trochaic feet (as marked by the asterisks), one or more feet forming phonological words (also left-headed), and finally the words combine to form a phonological phrase with the rightmost word as the strongest. The labels for the phonological constituents in (14.1) are well known in the discussion of phonological structure (cf. e.g. Nespor and Vogel 1982, 1986; Hayes 1989; Selkirk 1986, 1996, 2000; Ladd 2008; Ito and Mester 2009), and it seems that these concepts can easily be applied to describe Icelandic, as well as Faroese.

A parallel structure for an ‘out of the blue’ statement in Faroese was presented in (9.26), section 9.2.4, repeated here as (14.2):

(14.2)



In accordance with traditional terminology in the phonological literature, we will refer to the strongest syllable in the phrase as the Designated Terminal Element (DTE). This is the syllable which attracts the most prominent tonal accent (the nuclear accent). In (14.1) this is the syllable /ha-v-/, which has a short vowel and consequently lengthens the consonant accordingly as shown in the phonetic transcription, and in (14.2) the strongest syllable is the one represented in the spelling as *fót-*, which may be taken to have the lexical structure /fʊt/. As shown in the phonetic transcription, it has a long vowel due to the stress, and the stem final /t/ may be deleted.

But needless to say, many utterances have other rhythmic patterns. According to Árnason (2009c) there may be two types of deviation from the unmarked pattern in the division of labour between right-headed and left-headed structure in Icelandic. On the one hand, there are **systematic exceptions**, which may to some extent be directly related to morphosyntax, and on the other hand there are what may be called **pragmatically conditioned exceptions**.

## 14.2 SYSTEMATIC EXCEPTIONS

### 14.2.1 Deaccenting of weak morphosyntactic categories

There are some fairly regular exceptions in Icelandic from the main rule, that is that the DTE is the first syllable of the last word in the phrase, which would seem to suggest that some word classes or morphosyntactic categories are ‘stronger’ than others. In spite of the basically left-strong structure, it often happens, even under unmarked (broad focus) conditions, that a word from a stronger class attracts phrasal stress away from a following word of a weaker class.

One such case is shown in (14.3), where the verbal form *koma* ‘come-INF’ is weaker than the preceding noun *Jón* ‘John’:

- (14.3) *Ég sá JÓN koma* (noun > verb)  
 ‘I saw JOHN coming’

This is the stress pattern to be expected as an answer to a general question about ‘what happened’ or about what the speaker saw. A phrasing with the accent on the verb *koma* would place the focus on the verb, as an answer to a question asking what it was that the speaker saw John doing.

A similar effect seems to be at work in the examples in (14.4); the pronoun *honum* ‘him’ in (14.4a) is weaker than the preceding verb, and the pronoun *mér* ‘me’ in (14.4b) is weaker than the preposition *með*. And in (14.4c) and (14.4d) the preposition (or adverb) *með* is weaker than a preceding noun or verb:

- (14.4) a. *Ég FAGNA honum* (verb > pronoun)  
 ‘I welcome him’  
 b. *Dísa kemur MEÐ mér* (preposition/adverb > pronoun)  
 ‘Dísa comes (along) with me’  
 c. *Ég tók BÓK með* (noun > preposition/adverb)  
 ‘I took a book along’ (literally: ‘I took a book with’)  
 d. *Þetta er bókin sem ég FÓR með* (verb > preposition/adverb)  
 ‘This is the book that I took along’ (literally: ... ‘went with’)

This opens up the question whether word classes are directly involved in generating unmarked patterns of phrasal accentuation. In fact the testimony of the examples given above suggests that the following hierarchy of word classes would come close to predicting the unmarked strength relations in many phrases (cf. Árnason 1994–95, 1998b; 2005a: 446–7).

- (14.5) noun > verb > preposition > personal pronoun

Similar relations have been noted for English and some other languages (cf. Ladd 1996: 187 ff.; Hayes 1989), and it is often assumed that phonological phrase structure is derivative of morphosyntax (cf. e.g. Nespor and Vogel 1986; Selkirk 2000). In such theories, the distinction between content words and function words (among other things) is appealed to. A related lexical distinction between words is that of the openness of word classes.

The hierarchy in (14.5) seems to be quite stable in the more grammaticalized (or less open) word classes in Modern Icelandic. Thus there seem to be no cases where it would be natural to stress a pronoun after a verb or a preposition, or to stress a preposition after a noun or a verb. Phrases of the type shown in (14.6) below are clearly marked in some way and most naturally interpreted as having focal accents on the DTEs.

- (14.6) a. *Ég fagna HONUM*  
 ‘I welcome him’  
 b. *Dísa kemur með MÉR*  
 ‘Dísa comes (along) with me’



c. *Ég tók bók MEÐ*

‘I took a book along’ (literally: ‘I took a book with’)

d. *Þetta er bókin sem ég fór MEÐ*

‘This is the book that I took along (literally: ... ‘went with’)

But the relation between nouns and verbs is less stable. Although in many cases it seems to be true that an utterance-final verb form is weaker than a preceding noun (*Ég heyrði HEST hneggja* ‘I heard a HORSE neighing’, *Ég sá BÍL keyra framhjá* ‘I saw a CAR driving by’) the strength relation between nouns and verbs is likely to be at least partly due to information structure. This is shown by the fact that a verb like *þjást* ‘to suffer’ is more likely than not to contain the DTE in wide-focus environment as in (14.7):

(14.7) *Ég sé Jón ÞJÁST*

‘I saw John suffer’

A corresponding utterance like (14.8), where the verb is weaker than the noun, is likely to convey focus on the noun or that the information carried by the verb is somehow given.

(14.8) *Ég sá JÓN þjást*

‘I saw JOHN suffer’

It is thus not clear whether the strength relations observed are directly related to the morphosyntactic categories in question, or whether they should be related to semantics or information structure. So, in the case of the lexical categories, the connection between phonology and meaning seems to be more direct.

Further investigation is needed before much can be said about similar phenomena in Faroese. But forms like the ones in (14.9) (also mentioned in section 12.9.2 above) indirectly testify to systematic strength differences between prepositions and pronouns:

(14.9) *til tað* [t<sup>h</sup>ɪlta] ‘to that’*hjá honum* [ʃjɔ:nʊn] ‘with him’*hjá mær* [ʃjɔm:ɛaɪ] ‘with me’

Here the pronouns *tað* ‘it, that’, *honum* ‘him’, and *mær* ‘me’ have been cliticized, forming phonological words in combination with the prepositions (conforming to lexicalized patterns like the ban on internal /h/), which would seem to have their origin in the frequent occurrence within phrases of a weak pronominal form preceded by a relatively strong preposition.

But other Faroese examples suggest that prepositions are weaker than adverbs. Thus MF compound prepositions with final stress, like *afturum* [a<sup>h</sup>təʊm:] ‘behind (literally: after about)’, *frammaná* [frama<sup>h</sup>nɔa:] ‘in the front, in face (literally: front on)’, *niðurav* [niʊʊ<sup>h</sup>ɛa:v] ‘down from’, *niðaná* [niʊa<sup>h</sup>nɔa] ‘to the top (literally: from below up)’ mentioned in section 13.2.1, which historically derive from (sub-)phrases consisting of prepositions and adverbs, suggest a regular weak-strong relation

between a preposition and a following adverb. And examples like the ones in (14.10) show that a simple preposition is considerably weaker than a following noun.

- (14.10) *til Klaksvíkar* [tɪl'klaksvøikaɪ] 'to Klaksvík'  
*til Havnar* [tɪ'launaɪ] / [tʰ'launaɪ] 'to Tórshavn'

Thus, although strong relative to pronouns, prepositions are weak relative to the nouns that they govern. And Icelandic forms like *til Húsavíkur* [tʰ(ɪ)'lu:savíkʰʏr] 'to (the village) Húsavík' and *til Ísafjarðar* [tʰ(ɪ)'li:safjarðar] 'to (the village) Ísafjörður' testify to the same thing.

#### 14.2.2 Deaccenting in Icelandic definite noun phrases

Another principled exception from the generalization that the DTE is the word stress of the rightmost (lexical) word in the phrase is (as noted in Árnason 2005a: 453ff and Ladd 2008: 242) that definite noun phrases in MI are normally left-strong under broad focus, as shown by (14.11a), which contrasts with (14.11b):

- (14.11) a. *Ég gaf Jóni [GAMLA hestinn]*  
 'I gave John the old horse'  
 b. *Ég gaf Jóni [gamlan HEST]*  
 'I gave John an old horse'

But again, semantically heavy nouns can retain their accent, as in:

- (14.12) *Parna er gamla PÓSTHÚSIÐ*  
 'There is the old post-office'

A phrase like (14.13) with the accent on the adjective would have to be contrastive, either with focus on the adjective or with the word *pósthúsið* 'post office' conveying given information.

- (14.13) *Parna er GAMLA pósthúsið.*  
 'There is the OLD post-office'

We are not in a position to say much about similar things in Faroese. The general pattern for complex noun phrases like *nógvar bøkur* 'many books' seems to be right-strong. And as regards definite vs indefinite noun phrases, the morphosyntactic conditions are different from Icelandic. Since Faroese uses free-standing articles (definite or indefinite) and 'double definiteness' (cf. Thráinsson et al. 2004: 65 ff.), as in *ein stórur bílur* 'a big car' vs *tann stóri bílurinn* 'the big car', the typical morphosyntactic patterns seem to call for a different prosody. It is thus not likely that we will find similar systematic differences between definite and indefinite phrases to those we have in Icelandic.

## 14.3 PRAGMATICALLY MOTIVATED EXCEPTIONS

As well as the more or less regular exceptions described above, it is easy to show that pragmatic demands can call for phrasal reorganization and different distribution of stresses, requiring exceptions from the general rules.

14.3.1 *Emphatic rephrasing*

One such phenomenon, which has been mentioned several times already (see section 13.3.1 and cross references) is what we have called emphatic rephrasing, a sort of slow, deliberate style, which can be applied to express a strong feeling of some sort about the message being conveyed (cf. Árnason 2009c). An example which was given in (13.18), where a right-strong phonological construction is formed out of one lexical word, is repeated here as (14.14):

- (14.14)                    H     HL  
                               *Hann er hrika-LEGUR*  
                               ‘He is terr-IBLE’

In (14.14) the word *hrikalegur* ‘terrible’, which under normal conditions would have the main stress on the first syllable and a secondary stress on the third one: *‘hrika ,legur*, is treated like a phrase and has a pitch accent on each part of the composite form, with the strongest accent on the final foot, which then supplies the DTE.

The splitting up of words into phrases in this style is not limited to the end of an utterance. In examples like (14.15) the initial subject noun is split into two phonological words and the DTE is at the end of the phrase (cf. Árnason 2009c: 289–90):

- (14.15)                    H            H            H\*L  
                               *Vestmanna-eyjar skulu RÍSA*  
                               ‘The Westman-Islands shall rise’

And we have seen that utterances of this type are not limited to compounds and derived words, since even inflectional endings can be separated from their stem and stressed, as shown in sections 8.1.3 and 9.1.5. The example given in (8.3) and (9.14) is repeated here once more as (14.16):

- (14.16)                    H     H\*L  
                               *Það tók mig á-RÍÐ*  
                               ‘It took me the (whole) year’

Although this rephrasing is marked, having a special pragmatic function, it is fairly straightforward from the phonological point of view, once we split up the words in the manner discussed.

Once again, data for Faroese are lacking, but it seems that similar things can happen. Thus a compound like *Skálafjörður* ‘a place name; literally: hall-GEN#fjord’ can be split up into what look like two disyllabic phonological words, as in (14.17), where we have a sample utterance from my data:

- (14.17) Runavík, tað liggur—[hesitation]—við Skálafjörðin  
   [vɪ'skɔɑ:lə'fjœːɹɪn]  
   H L                 !HLH%  
     ‘Runavík (the village), it—[hesitation]—is located in the Skálafjörður’
- Ýmist úr Hestsøgu  
   ['hests'sœvu]  
   HL                 !HLH%  
     ‘Miscellanea from the Saga of Hestur’

Here compounds like *Skála#fjörður* ‘the name of a Faroese fjord’ and *Hest#søga* ‘the saga of Hestur (the island)’ are uttered as two separate words, with two pitch accents, and the second ones, *-fjörður* ‘firth’ and *-søgu* ‘story-DAT’, seem to be the stronger in both cases, which would seem to qualify them as carriers of the DTE.<sup>1</sup>

### 14.3.2 Contrast, focus, and given information

As shown in Dehé (2006) and Árnason (2009c), focus and the marking of given or new information can have an effect on phonological phrasing and stress relations, as we saw in (14.6). Other typical patterns indicating focus are given in (14.18):

- (14.18) a. *JÓNÍNA ætlar að baka köku*  
           ‘JÓNÍNA is going to bake a cake’  
       b. *Jónína ÆTLAR að baka köku*  
           ‘Jónína IS GOING TO bake a cake’  
       c. *Jónína ætlar að BAKA köku*  
           ‘Jónína is going to BAKE a cake’  
       d. *Jónína ætlar að baka KÖKU*  
           ‘Jónína is going to bake a CAKE’

Thus (14.18a) focuses on WHO is going to bake the cake, (14.18b) on Jónína's INTENTION to bake the cake, (14.18c) emphasizes the fact that she is going to BAKE it (not buy) it. And (14.18d) is ambiguous between expressing narrow focus, that it is a CAKE (not a pudding) that she is going to bake, or broad focus, with all the information carried by the utterance as relatively new. The last example shows once more that the same or similar stress pattern can serve more than one function from the pragmatic or communicative point of view, since this is basically the same pattern as for an 'out of the blue' statement.

<sup>1</sup> These examples are based on utterances by Speaker (T-36; file: *Runavík*). The analysis of the sequence *við Skálafjöðin* as two phrase accents seems to be doubly justified. There is clear lengthening of the open syllable vowels in both syllables; the first vowel /ɔa/ (spelled *á*) is about 102 ms. And the second one /œ/ (spelled *ö*) is 30 per cent longer (about 130 ms), and the pitch movement between the two syllables of *Skála* is from 134 Hz to 108 Hz and the final HLH goes from about 119 Hz to about 112 Hz and up to 120 Hz. Similar intonation was used for the latter example *Hestsögu* from the same speaker. The compound is clearly split into two phonological words, each with its own accent. Other speakers (e.g. Rakul) may utter the form *Hestsögu* as one word with what sounds like a relatively weak secondary stress on the second syllable.



- (14.22) *Það er nefilega það*  
 ‘That is actually the case’  
 [‘θa:ðer'nepnile γa'θa:θ] careful pronunciation  
 [‘θa:ðineplea'θa:] normal pronunciation  
 [hampla'ha:] informal style

The ‘faster’, ‘less careful’, or more informal the style, the more likely it is for the processes of reduction and slurring to show their effects. There is a correlation with stress and rhythm, as illustrated in the transcription; the most careful pronunciation is assumed to have three stresses, whereas the least careful pronunciation has only one.

Among the ‘laws’ that have been identified in Modern Icelandic as being responsible for slurring of the sort shown in (14.22) are the **place assimilation of nasals**, the **deletion of voiced fricatives**, the **frication of nasals** before voiceless fricatives, and the **deletion of prosodically weak syllables** and **monophthongization of short diphthongs** (cf. e.g. Árnason 2005a: 418).

A very common sandhi-phenomenon in MI is thus regressive place assimilation of nasals, as in the informal type of utterance in (14.22), where the word *nefnilega* /nepnileγa/ ‘actually’ appears as [...mpla...]; due to the deletion of the first syllable, the initial /n/ surfaces as [m] before the labial stop. Further less-reduced examples are shown in (14.23):

- (14.23) a. *Jón kom HEIM* [ˈjouŋkɔm'heim]  
 ‘John came HOME’  
 b. *Ég sá JÓN koma* [jesau'jouŋkɔma]  
 ‘I saw JOHN coming’  
 c. *Ég sá Jón KOMA* [jesaujoun'kʰoʊ:ma]  
 ‘I saw John COMING’  
 d. *Jón kom TIL mín* [jouŋkɔn'tilmin]  
 ‘John came TO me’  
 e. *Jón kom til MÍN* [jouŋkɔnti'mi:n]  
 ‘John came to ME’

Here we see that it is natural for the nasal of *Jón* ‘John’ and *kom* ‘came’ to assimilate in place to a following stop in connected speech. As can be seen, assimilation seems to be less natural when the stop is in a stressed syllable, as in (14.23c), than when the nasal belongs to a stressed syllable as in (14.23b). This suggests that dependency relations and constituent structure is relevant, as will be further discussed in section 14.6. below. (Cf. the English example *co[n]'gressional* vs *co[ŋ]gress*.)

Another common reduction process is the frication of nasals, as shown in (14.24):

- (14.24) a. *Jón fór HEIM* [ˈjouʋfou'rei:m]  
 ‘John went HOME’  
 b. *Jón FÓR heim* [jou'n'fou:reim]  
 ‘John WENT home’

What is obviously needed is contact between the nasal and the following obstruent, but it seems that the strength relations or dependencies are also relevant, since again the frication seems to be more likely to occur in (14.24a) after stress than in (14.24b) before stress.

Both place assimilation and frication can affect word and morpheme internal clusters, as in *inngangur* [ɪŋkaŋkʏr] ‘to walk’ with place agreement, and *dansa* [taʒsa] ‘to dance’, and *einsog* [eiʒsɔx] ‘like, in the same way as’, with frication. In some cases the place harmony can be expressed as a phonotactic condition in that morphemes are required to show agreement between a nasal and a following stop. We thus have underived forms like /lant/ *land*- ‘land’, /kaŋk/ *gang*- ‘walk’, and *lamb*-/lamp/ ‘lamb’ with place agreements, whereas sequences like \*/.mt../, /.nk../, /.np../, with a nasal disagreeing in place with a following stop, are basically only allowed in polymorphemic words like *samtök* [samt<sup>h</sup>øk] ‘union’.<sup>2</sup>

One of the effects of postlexical slurring, as exemplified in (14.22), is the debuccalization of /θ/ to give [h], and it is in fact quite common, as mentioned in sections 6.3 and 9.3.3, for fricatives, especially voiced ones, to be weakened, or deleted. Thus forms like *dagblaðið* ‘newspaper (literally: day-paper)’ are commonly pronounced [ta:pla:i] (cf. Árnason 2005a: 418), with deletion of both /ç/ and /ð/ from the ‘lexical’ form /taçplaðið/. And this is one of the effects leading to the reduction of /nɛpnɪlɛɣa/ to [...mpla...], namely the deletion of the fricative /ç/ from the abstract /...lɛ:ɣa/.

Another process, mentioned in Árnason (2005a), is the deletion of prosodically weak syllables, as in *árshátíð* ‘annual banquet’ and *miðvikudagur* ‘Wednesday’, which beside the clearly articulated [aʊrʃhauðiθ] and [miðvɪkʏtaçɣʏr], can have the reduced forms [aʊrʃtiθ] and [miðktaçɣʏr]. In (14.22) this ‘law’ has the effect that the three syllables of *nefnilega*, which can be assumed to have a lexical form something like /nɛpnɪlɛɣa/ are reduced to [mpla] (or [mplɛa] with a slightly clearer pronunciation), and the nasal harmony assimilates the initial consonant to the following stop.

Finally, as mentioned in section 8.1.4, it is common for short diphthongs to become monophthongs in less careful styles. This is shown in utterances like the one in (14.25):

- (14.25) *Spánverjar unnu Þjóðverja*  
 ['spaʊnˈvɛrjar,ʏn:v'θjouðˈvɛrja] (careful style)  
 ['spɔnˈvɛrarʏn:v'θjou:v(e)ra] (less careful style)  
 ‘The Spanish beat the Germans (Spain beat Germany)’

<sup>2</sup> The morphological transparency may at times be a matter of degree, as e.g. in the stem *skemmt*- as in *skemmta* [sçɛmta] ‘to entertain’ and *skemmtilegur* [sçɛmtɪlɛɣʏr] ‘entertaining’. Etymologically the stem *skemmt*- is derived from the same stem as *skammur* ‘short’, and in this accords with the careful pronunciation [sçɛmtɪlɛɣʏr], but the pronunciation [sçɛptɪlɛɣʏr] with a dental, seems to be gaining ground and may well be lexicalized for many speakers.

## Final vowel deletion

As can be seen, the effects of the slurring processes described above can be quite drastic, at the same time as they are highly sensitive to style. A different type of phenomenon is what Dehé (2008) calls Final Vowel Deletion (FVD), according to which word final vowels are deleted before words beginning in a vowel. Examples of this are shown in (14.26):

- (14.26) *Nonn(i) ætlar að far(a) á fund*  
 ‘Johnny intends (is going to) to go to a meeting’  
 [ˈnɔn:aihtlaraðfarauˈfʏnt]

Here the bracketed vowels of *Nonni* ‘Johnny’ and *fara* ‘to go’ are deleted before the vowels of the (modal) verb *ætla* ‘intend’ and the preposition *á* ‘on, to’.

Unlike the slurring phenomena this deletion is quite normal in more careful styles of utterance, although some cohesion and stylistic ‘relaxation’ is a prerequisite, since a pronunciation with the relevant vowels clearly pronounced is perfectly possible. This is particularly clear when the words following the potential hiatus have separate stresses and are thus not ‘rhythmically dependent’ on the preceding word. Thus in an utterance like (14.27), where the verb *ætla* and the preposition *á* each have a stress, the preceding vowels are not deleted:

- (14.27) *Nonni ÆTLAR að fara Á FUND*  
 [ˈnɔn:lʰ(?)aihtlaraðˈfaraʰ(?)auˈfʏnt]

In such a careful or emphatic style, it would be unnatural to drop the vowels of *Nonni* and *fara*, and as can be seen, a glottal onset may be inserted before the stressed vowels.

It has been shown (cf. Dehé 2008: 745–50) that beside stress, there is some correlation with syntactic constituency and the likelihood of FVD. This is exemplified in (14.28):

- (14.28) a. *Þetta er (Fríða í Ystafelli)<sub>NP</sub>* (FVD likely)  
 ‘This is Frida of the farm Ystafell’  
 b. *Ég sá (Fríðu)<sub>NP</sub> (í Kringlunni)<sub>AP</sub>* (FVD less likely)  
 I saw Frida at the mall  
 c. *Ég sé (Fríðu)<sub>NP</sub> (aldrei)<sub>AP</sub>* (FVD unlikely)  
 I see Frida never

In forms like (14.28a), where the preposition forms part of the Noun Phrase, the deletion seems to be favoured, whereas it is less likely to occur in (14.28b) and (14.28c). But, as shown by Dehé, syntactic constituency does not tell the whole story; it is the prosodic constituency which is the prime factor.

An interesting feature of FVD is that it affects only the vowels /i/, /a/, and /ɛ/, which are the ones which occur in traditional endings and derivational morphemes (cf. section 4.2). The examples given above involve endings of this sort. But it is not



the morphological character which is crucial, since vowels having the quality of those occurring in traditional endings are affected, even if they cannot be analysed morphologically as such. Thus the final /a/ of loans like *pasta* ‘pasta’ and *Kanada* ‘Canada’ may be deleted, as in (14.29):

- (14.29) *Það er past(a) í matinn*  
 There is pasta for dinner  
 ‘We’re having pasta for dinner’  
*Hann fer til Kanad(a) á morgun*  
 ‘He’s going to Canada tomorrow’

But deletion does not apply to other word final vowels, such as /i/, /æ/, or /ɔ/, as shown in (14.30):

- (14.30) *Ég fer í partí á morgun*  
 [jɛfəri'partijau.mɔrkʏn] \*[…paɾtau...]  
 ‘I’m going to a party to-morrow’  
*Hann fer til Malmö á morgun*  
 [hæʋfɛrtil'malmœau.mɔrkʏn] \*[…malmau...]  
 ‘He’s going to Malmö (a town in Sweden) tomorrow’  
*Hann fer til Umeå á morgun*  
 [hæʋfɛrtil'ʏ:mœɔu.mɔrkʏn] \*[…ʏ:mau...]  
 ‘He’s going to Umeå (a town in Sweden) tomorrow’

Final Vowel Deletion thus seems to obey similar conditions to those described in section 12.7 for inflectional forms.

### Vowel length and syllabification

Still another symptom of postlexical cohesion (which ultimately is connected to phonological constituency) is the fact noted e.g. in section 10.2 that syllabic structure may be revised at the phrase level due to contact between separate words.

In (14.31) the adverb *hei.m* ‘home’, which has an extrasyllabic consonant and a long vowel when standing alone, joins the preposition *til* ‘to’ to form what amounts to a postlexical stress foot: *heimtil*. And the result is that the first syllable is closed and the vowel short (cf. (10.20)):

- (14.31) a. *Hann fór HEIM til hans* [...'heim'tʰɪlans]  
 He went home to him  
 ‘He went to his house’  
 b. *Hann kom með DÓS til mín* [tou:stɪlmin]  
 He came with a tin to me  
 ‘He brought me a tin’  
 c. *Jón fer HEIM á morgun* [...hei:maumɔrkʏn]  
 ‘John goes home tomorrow’

The reorganized syllable structure has the effect in (14.31a) that the lengthening, which is realized on the sequence *heimtil*, is manifested as half length on the [m] following the vowel, but in (14.31b) *dóstil* has a long vowel according to the postlexical version of the length rule. In the case of cohesion between *heim* and a word beginning with a vowel, the result is a long vowel, as in (14.31c).

#### 14.4.2 Sandhi in Faroese

Less is known about the utterance phonology of Faroese than that of Icelandic, and traditional research does not provide us with a taxonomy of fast speech rules. Consequently the observations made in this section must be taken as preliminary, pending further research.

Not surprisingly, place assimilation of nasals is pervasive in Faroese, as in Icelandic. It was mentioned in section 7.4 that velar and palatal nasals occur word-internally before homorganic stops, as in *longur* [lɔŋkʊr] ‘long’ and *leingja* [leɪŋtʃa] ‘to lengthen’. And the same sort of place harmony may also be found postlexically, as shown in (14.32):

- (14.32) a. ...*á hesum bátinum*  
           [... ɔhe:sʊmpɔa:<sup>h</sup>tnʊn]  
           ‘... on this boat’  
       b. ...*sleppa músum frá landi*  
           [stle<sup>h</sup>pa'miʊsʊŋfrɔ<sup>l</sup>lantʃ]  
           ‘Release mice from land’<sup>3</sup>

In (14.32) the ‘lexical’ /n/ assimilates to the following obstruents, in (14.32a) we have a labial nasal before /p/, and in (14.32b) a labiodental nasal, which takes its place characteristics from /f/. (Note that final *m* is only orthographic; the word list style pronunciation of *músum* and *hesum* has a final dental nasal: /mʊu:sʊn/, /he:sʊn/.)

But unlike Icelandic, Faroese does not have frication of nasals before voiceless fricatives. Thus forms like *ansa ettir* ‘to take care of, look after’ may be pronounced [aŋsa] or [ansa], and *kanska* ‘perhaps’, *danskur* ‘Danish-MASC’, and *enskur* ‘English-MASC’ are normally pronounced with fully articulated nasals before /s/: [aŋsa], [k<sup>h</sup>aŋska], [taŋskʊɹ] [ɛŋskʊɹ]. In clearer styles it seems that an intrusive [t] may be added in these forms, giving something like [aŋtsa] for *ansa*, etc. Also, as shown in section 9.4.3, MF *danskt* [tai<sup>ɰ</sup>.st] ‘Danish-NEUT, the Danish language’ and MF *enskt* [ei<sup>ɰ</sup>.st] ‘English-NEUT’ have fully articulated velar nasals before /s/, due to some sort of metathesis. There seems to be no tendency in Faroese for frication or deletion of the nasal as in MI *danskur* [tažkyɽ]/[tā:skyɽ] ‘Danish’ and *enskur* [ežkyɽ] ‘English’.

One of the slurring effects in MI is the deletion of prosodically weak syllables, and this is something which is also common in MF. As we saw in section 9.2.4, it is

<sup>3</sup> Speaker T-36 (04.48–02.54). The speaker actually misread the original text, which is: ... *sleppa músum á land* ‘... to release mice onto the land [from a boat]’.

common for forms, which are spelled as if they are trisyllabic, to be uttered as two syllables, as shown in (14.33):

- (14.33) *húsinum* [hʉu:.snʉn] ‘the house’  
*bátinum* [pʉɑ:.(<sup>h</sup>)tnʉn] ‘the boat’  
*bygdina* [pɪk.tna] ‘the community’  
*landinum* [lan.tnʉn] ‘the land’  
*báturinn* [pʉɑ:.<sup>h</sup>.tɪn] ‘the boat-NOM’

Furthermore, a form like *handilsmaður* ‘businessman’ is commonly pronounced [hantɪsmɛa:vʉɪ], with deletion of the vowel in the second syllable. The deletion of middle syllables seems to vary according to style or even phonetic conditions, like the character of surrounding consonants. Thus, for example, a form like *benkinun* [‘pɔɪnɪfɪ.nʉn] ‘the bench’ (Speaker T-1) is clearly trisyllabic. This might well be ascribed to the markedness of an interlude like [...nɪfn...], which would be the result of the deletion of the middle syllable. And sometimes the syllable remains although the colour of the vowel is bleached, as in *stadigvek* [sta:døvɛ<sup>h</sup>k] ‘still’ (Speaker T-1).

Since Faroese has lost its historical word-internal fricatives, there is no variation due to optional weakening as in MI *dagblað* [ta(ɣ)pla(θ)] ‘newspaper’; corresponding MF forms *dag* [tɛa:] and *blað* [plɛa:] have no underlying fricatives. But still, MF sonorants may be deleted before other consonants, as in *allir bátar* [atlɪ‘pʉɑ:taɪ] ‘all boats’ (T-36). Here the final /ɪ/ of *allir* is deleted, whereas the one in *bátar* is retained, albeit rather weakly.

Some further examples, showing various types of reduction in MF, are listed in (14.34):

- (14.34) a. *Eg er upp vaksin í Klaksvík* (Speaker K-17)  
 [ɛɛɪ.ʊ<sup>h</sup>pvaksɪn.k<sup>h</sup>laksvɔik]  
 ‘I grew up in Klaksvík’  
 b. *Altíð í Klaksvík* (Speaker K-9)  
 [altʉwə<sup>h</sup>lasvɪk]  
 ‘Always in Klaksvík’  
 c. *Pápi mín er faktiskt føddur í Svínoy* (Speaker K-9)  
 [p<sup>h</sup>ɑ:pmɛfaktsfʉtʉrɪ’svɔɪnə]  
 ‘My dad was in fact born in Svínoy’  
 d. *Eg veit ikki hvað eg skal siga* (Speaker K-15)  
 ‘I don’t know what I should say’  
 [ɛ.vʉɪtɪʃ.kæska’sɪja]  
 e. *Eg snakki likasum pabba...* (Speaker K-19)  
 ‘I speak like my dad’  
 [ɛstnaçɔlikasm<sup>h</sup>p<sup>h</sup>ap:a...]

In (14.34a) the preposition *í* ‘in’ is not uttered, and in (14.34b) it is weakened to [ə]. In the latter example there is a deletion of [k] before /s/ in *Klaksvík*, and in the second syllable of the same word, the diphthong is simplified, giving [vɪk]. In (14.34c), consonants are weakened in the words *Pápi mín er...* ‘My dad is...’, giving [p<sup>h</sup>a:pmiɛ], and in the word *Svínoy*, the second syllable is reduced to schwa: [svɔi:nə] (cf. section 5.5). In (14.34d), the phrase *veit ekki* becomes [vɔiʈə], and in... *hvað eg skal siga* ‘what I should say’, the first and the second syllable are contracted, so that [a] and [e] seem to be uttered as one syllable. And furthermore, the final /l/ of *skal* ‘shall’ is not uttered. In (14.34e), we have a reduction of intervocalic /ʃ/ in *snakki* ‘speak’ to a fricative, giving [stnaçə], and the vowel of the last syllable of *likasum* ‘like’ is deleted, giving something like [likasm].

It is thus clear that reduction is common in MF, and in fact some commonly occurring phrases have developed reduced forms which might be listed as such in the lexicon. Thus a phrase like *eitt lítið sindur* ‘a little bit’ is likely to have a form something like [ɔi<sup>h</sup>t<sup>h</sup>lɔitsɪntɪ], with one stress, and similarly, the phrase *gongst sum ætlað* ‘probably (literally: if things go as expected)’ often seems to be used as a unit [ˈkɔŋks(ʊ)ma<sup>h</sup>tla]; and the same may be said of *áður en* [ɔa:un] ‘before’, where the final syllable looks like a typical restricted syllable. In some cases, individual words seem to have more than one form, a ‘clear’ version and a more reduced one, as, for example, the word for ‘confirmation present’ *konfirmationsgáva*, which beside the clear version [k<sup>h</sup>ɔnfi.ɪma<sup>h</sup>ʃɔnksɔa:va] can have the more reduced form [k<sup>h</sup>ɔmə<sup>h</sup>ʃɔŋsko:va].

One more cause of utterance level variation is the reduction and neutralization of the unstressed vowel system described in section 5.5.4, which is an ongoing phenomenon. As shown in (5.20), final /i/ and /u/ may be reduced in forms like *lengi* [lɔɪɪʈə] ‘for long’, *húsið* [hʊu:sə] ‘the house’, *vóru* [vɔ:ɪə] ‘were’, *meintu* [maɪntə] ‘meant, thought’, and *stevnið* [stɛunə] ‘the prow’. And word-final vowels are reduced in forms like *bygdine* [pɪktɪ] ‘the village’, *fellur* [fɛtlɔɪ]/[fɛtl(ɪ)] ‘traps’, *stórir* [stou.ɪəɪ]/[stourəɪ] ‘big’, *allir* [atɪɪ] ‘all’, *undir* [untəɪ] ‘under’, *bátar* [pɔa:tɪɪ] ‘boats’, *fellum* [fɛtlən] ‘traps’, *húsinum* [hʊu:səɪnən] ‘the house-DAT’, *minnka* [mɪŋkə] ‘decrease’, and *sjókastað* [ˈʃou:kastə] ‘thrown from the sea’.

Another phenomenon noted in section 5.5.4 is the deletion or total syncope of the vowel in the final syllable, so that a form like *eftir* ‘after’ is pronounced [ɛ<sup>h</sup>tɪ] (instead of, say, [ɛ<sup>h</sup>tɪɪ] or [ɛ<sup>h</sup>təɪ]) and a phrase like *veit ekki* ‘don’t know’ is realized as [vai:ʈ<sup>h</sup>], instead of, say, [vai:tɪ] or [vai:tɪtɪ]. As shown by the expression in (14.35) (repeated from (5.22)), this truncation is most likely to occur at the end of utterances:

- (14.35) ... *er han nevndur* [nevntøɪ], *so er hann kendur* [ʈɛntɪ] (Speaker T-1)  
 ‘if he is named, then he will be known’

It is thus not certain that the final syncope or truncation is connected to stress or rhythm in the same way as the deletion of the middle syllable in trisyllabic forms like *bátinum* [pɔa:tnən] ‘the boat-DAT’ (also well attested in Icelandic). In fact, as mentioned in section 14.5.3 below, it may be that this should be taken as a demarcative phenomenon, signalling the end of an utterance.

14.4.3 *Rhythmic rearrangement*

A well known phenomenon in English phrasal phonology is the so-called ‘rhythm rule’, according to which word stress is shifted to the left, so that the final stress of *thirt'een* is moved to the first syllable in a phrase like *'thirteen 'men*. The result is a more eurhythmic form. A similar effect in Icelandic can be seen in (14.36):

(14.36) a. *Hann beið fimm mínútur* [... 'fimi'nu:tyr]

H ^HL L%

‘He waited five minutes’

b. *Hann beið fimmtán mínútur* ['fɪm̥taun'minutyr]

H ^HL L%

‘He waited fifteen minutes’

The lexical stress patterns imply a stress clash in the case of *'fimm 'mínútur*, where a monosyllabic numeral *fimm* ‘five’ precedes the stress of the noun, *mínútur* ‘minutes’. The postlexical effect is that the stress on *mínútur* is (optionally) moved to the right, giving more eurhythmic [... 'fimi'nu:tyr] with alternating strength. The fact that the second stress of the sequence forms the DTE in (14.34a) shows that the sequence is a phonological phrase and not a phonological word. And the fact that no relocation of accents takes place in the case of *fimmtán mínútur*, where the first word is bisyllabic and no clash occurs, shows that the conditioning is rhythmic. (A similar observation was made in section 13.1.2 regarding examples like *'extreme dæmi* ‘extreme example’.)

I have no records of such rhythmic rearrangement involving movement of word stress for eurhythmic purposes in Faroese, neither in compound words nor on the level of phrases. Stress clash is allowed to remain in compounds like *mótor,bátur* ‘motor-boat’ and *fy'sikk,lærari* ‘physics teacher’, and in *konfirmatíons,gáva* ‘confirmation present’ the stresses of the constituent forms stay in place, suggesting that the stresses are ‘cyclic’. And I have not found any instances of phrases showing, for example, the movement of the final stress of words like *signal* [sɪk'na:l] ‘signal’, *fysikk* [fi:'sɪ'hk:] ‘physics’, *tapet* [tʰa'pe:t] ‘wall-paper’, *diskotek* [tɪsko'tʰe:k] ‘discotheque’, when followed by stress initial words, although this needs further investigation.

## 14.5 DEMARCATIVE SIGNALS

As shown in Árnason (2009c), phonological phrases in Icelandic and some of their constituent parts can have various markers directly or indirectly signalling their ends or beginnings. Such phenomena can occur either on the left hand side or the right hand side of the constituents for which they are relevant. An important part of this signalling is played by the intonational patterns discussed in Chapter 15, but other such features are worth mentioning in this context.

## 14.5.1 Stress and glottal onset

Generally speaking, word stresses in MI mark the beginnings of prosodic words, and since the leftmost syllable of the rightmost word in constructions like *Nanna borðar HAFRAGRAUT* (cf. (14.1) above) forms the DTE, the word stress or pitch accent can serve as a signal of constituent structure. These stresses vary in strength, but typical symptoms are the lengthening of the rhyme (cf. section 10.1) and pitch accents (cf. section 15.2). The stresses are distributed according to the organization of the utterances, serving such functions as focus marking or style.

A more segmental type of demarcative signal in MI is the glottal onset which commonly occurs before a stressed syllable beginning with a vowel or an empty onset. This is shown in (14.37):

- (14.37) *Jón kemur ALDREI* [jouŋcɛmyr'ʔaltrei]  
 John comes never  
 'John NEVER comes'

Example (14.37) illustrates an utterance with a heavy stress on the adverb *aldrei* 'never', and under such circumstances it is normal for the empty onset to be realized by a glottal stop.<sup>4</sup>

In the event that a glottal onset is formed on a word initial syllable, final vowel deletion in the preceding word becomes less natural (although not totally excluded), as shown in (14.38):

- (14.38) a. *Ég ætlaði ALDREI á skíði* [aihtlaði'ʔal'treiau'sci:ði]  
 I intended never on ski  
 'I NEVER intended to go skiing'
- vs
- b. *Ég AETLAÐI aldrei á skíði* [... 'ʔaih'taðaldreiau'ski:ði]  
 'I never INTENDED to go skiing'

It is possible to interpret this so that the glottal stop forms a sort of boundary and blocks the application of FVD, but this is also in harmony with the tendency that we noted above, that regressive effects like nasal assimilation are less likely to occur when the stress of the second constituent (the source) is equal to or greater than that of the first one (the target).

<sup>4</sup> As noted in Árnason (2009c: 300), although the glottal onset is most conspicuous before vowel-initial words, it may also occur before consonants in formal circumstances, functioning as a sort of upbeat to the following utterance: [ʔ] *Pú getur pantað samband* ... '[Glottal stop] You can order a connection ...' (in a recorded message supplied for busy lines by a telephone company).

14.5.2 *Right hand signals in Icelandic*

The final devoicing described in section 12.2 can be a very clear signal of pause in Modern Icelandic speech. This is shown in (14.39):

- (14.39) a. *Jón FÓR* [fou:ɾ], (*en Siggi kom í staðinn*)  
           ‘John went, but Siggi came in his place’  
       b. *Jón fór 'EKKI* [jounfou'rehcɪ]  
           John went not  
           ‘John didn’t go’

The devoicing of the final /r/ in *fór* ‘went’ in (14.39a) is a clear indicator of a break in the utterance, and a boundary tone is also likely to occur at this point (cf. section 15.2.1). Although the devoicing is often quite prominent, it is clearly optional; it is possible to utter the same type of phrase and skip the devoicing without a major difference in pragmatic value. The presence of final devoicing thus implies the end of a phonological phrase even though it is not clear that the converse is true, that is that a phonological phrase (or any other constituent) implies final devoicing. Further research will show more clearly how the final devoicing relates to the end of a phonological phrase and to other signals such as phrasal tones or boundary signals.

An interesting phenomenon which emerges from a detailed phonetic study carried out by Dehé (2010) is that, contrary to what might have been expected, final or late accented syllables are significantly shorter in duration than early accented syllables. The conclusion (2010: 54) is ‘that it is position rather than focus which affects [accented] syllable and vowel duration... [and] unlike other languages, Icelandic does not make use of duration of the stressed syllable to signal focus.’ It seems thus that the function of focus (however defined, presumably with reference to pragmatic conditions) is less important than other, purely rhythmic facts in determining durational relations in MI linguistic signals. A possible interpretation of the finding that late stresses are shorter than early ones might be some sort of principled *accelerando* at the end of utterances, which is the opposite of final lengthening, commonly observed in languages and which might then be seen as due to a final *ritardando*.

But obviously we need to know more about this phenomenon before any such conclusions can be drawn.

14.5.3 *Demarcative signals in Faroese*

Since word stress is more irregular, it might seem that the demarcative function of word stress is less clear in Modern Faroese than in Icelandic. But given the fact that the typical stress pattern in MF phrases is right-strong, the word stress of the last strong word in the phrase must be taken to be demarcative to some extent. We have also seen (cf. section 7.1), that glottal onset before stressed syllables beginning with a vowel have a similar function as in Icelandic, as shown in (7.2), repeated here as (14.39):

- (14.40) *Okkurt um árið 1908*  
 Something about the year 1908  
 'Around the year 1908'  
 [ʰʊkʊʂtʊmʰʊɑːɹəʰnʊiːtʃʊntrʊʰʊʰta]

We saw in the preceding section that final devoicing can be a strong signal of the end of an utterance in Icelandic. This seems to be less common in Faroese. Thus forms like *börn* 'children' and *regn* 'rain' are usually pronounced with fully voiced (and semi-syllabic) nasals [bœɹn], [rɛkɹn], even at the end of utterances. And the same applies to final /l/ in forms like *navnaseðil* [naunaseːjɪl] 'name tag', which normally seems to keep its voicing at the end of an utterance. Examples can be found of final devoicing of /r/ in words like *ár* [ʊɑːɹ̥] 'year', but it seems to be weaker than in Icelandic and dependent on the speaker.

As we saw in sections 14.4.2 and 5.5.4, a common phenomenon in MF is the deletion or truncation of vowels in final syllables, so that a word like *eftir* 'after' is pronounced [ɛʰtɪ̥] (instead of, say, [ɛʰtɪɪ] or [ɛʰtəɪ]) and a phrase like *veit ekki* 'don't know' is realized as [vaiːtʃ̥], instead of, say, [vaiːtʃɪ] or [vaiːtɪtʃɪ]. As noted, this deletion mainly seems to occur at the end of utterances, that is before a pause, as in (5.22) and (14.35), repeated here once more as (14.41):

- (14.41) ...*er han nevndur* [nevnɒɹ̥], *so er hann kendur* [tʃɛntɪ̥]  
 'if he is named, then he will be known'

In the first occurrence (*nevndur* 'named') the ending *-ur* forms a clear syllable, whereas at the end of the phrase (*kenndur* 'known') we have deletion and devoicing. It was also noted that the truncation is often accompanied by some sort of voiceless release after the final consonant, similar to final devoicing in Icelandic. One interpretation of the final truncation might be to see it as an extreme case of final *accelerando*, but again more work is needed before we can draw conclusions.

In the same way as Icelandic final devoicing, this truncation is optional, and there is variation among speakers. Thus speaker (T-R) seems to have two ways of ending an utterance. Beside forms like *gjördu* [tʃœɹtʰʌ] 'did-PL', with a voiceless rounded release after the stop, *sjókastað* [ʰʊkʰastɑ̥] 'thrown from the sea', with a voiceless, very weak vowel, and *aftur* [aʰtːɪ̥] 'again' with a voiceless [ɪ̥], she can end phrases with fully voiced endings, as in *kenndur* [tʃɛntʊɪ] 'known'. In the latter case the ending is clearly pronounced, along with a final tonal contour which might be analysed as an H phrase tone followed by an L boundary tone.

## 14.6 CONSTITUENCY AND PROMINENCE

### 14.6.1 Boundaries or dependencies?

A well known hypothesis concerning prosodic structure is the so called Strict Layer Hypothesis (SLH), according to which '[t]here is a hierarchy of prosodic domain types such that, in a prosodic tree, any domain at a given level of the hierarchy consists



exclusively of domains at the next lower level of the hierarchy' (quoted from Ladd 2008: 290). But, as noted by Ladd and shown by a number of publications (e.g. Cinque 1993; Selkirk 1995, 1996, 2000; Nespor and Vogel 1982, 1986; Vogel 2009; Ito and Mester 2009), several questions are open regarding the nature and number of the prosodic domains and their relation to syntactic and intonational structure. Although it is obviously beyond the scope of this work to settle such general problems, a few comments will be submitted in this section.

It seems to be generally accepted that so-called intonational phrases are marked by boundary tones, and it is commonly assumed that there may be intermediate phrases that form separate constituents, having their edges marked by phrase tones (cf. e.g. Ladd 2008: 88). Furthermore it is sometimes assumed that a pitch accent as such can create an accentual phrase (Ladd 2008: 101ff), also called a minor phrase (Selkirk 2000: 252). A further possible type of constituent above words and below phrases is the clitic group (cf. Vogel 2009).

Among the interesting questions connecting to phonological constituent structure is whether constituents should have clearly defined beginnings and ends (left and right edges), which are represented by boundaries marked for the relevant categories. In Árnason (2009c) two views are considered regarding a means of analysing the Icelandic data that we have been looking at: these are called the dependency view and the boundary view. The dependency view is that things like postlexical slurring are sensitive to strong–weak relations or dependencies (cf. Anderson and Ewen 1987); the boundary view would predict that boundaries or brackets are relevant when it comes to analysing the constituent structure and the phonological correlates of this structure.<sup>5</sup>

The boundary viewpoint is made use of in some proposals to account for the mapping between syntactic structure and prosodic structure with the help of alignment constraints. One such constraint proposed by Selkirk (2000: 232) is that '[t]he right edge of any XP in syntactic structure should be aligned with the right edge of a [major phonological phrase] in prosodic structure'. Another constraint proposed by Selkirk is that '[t]he elements of an input morphosyntactic constituent of type XP must be contained within a prosodic constituent of type [major phonological phrase] in output representation' (2000: 235); a third constraint demands that the right edge of a Focus constituent in informational or syntactic structure should be aligned with the right edge of a major phrase in the phonological structure (2000: 238).

It is obvious that the cohesive sandhi-phenomena described above relate to boundaries only in a negative way. We have to assume a close contact (i.e. lack of at least some kinds of boundary) in order for the spreading of place and manner in nasal assimilation and frication to take place. Similarly, the resyllabification shown in

<sup>5</sup> Given the assumption that constituents have clear beginnings and ends, labelled brackets and labelled trees are notational variants, but the equivalence of trees and brackets crucially depends on the assumption that there can be no overlap between constituents and that no multiple domination is allowed (cf. e.g. Ladd 2008: 290 ff.), and it can be argued that constituent structure can be analysed without clear boundaries defining exactly where one constituent ends and the other begins.

(14.31) and the final vowel deletion shown in (14.26–29) presuppose close contact. The occurrence of such phenomena then implies lack of a boundary. But it seems that strength relations are relevant in all cases. Thus a relatively strong stress on *Jón* ‘John’, as in (14.42a) and (14.43a), makes assimilation more likely, whereas utterances like (14.42b), with relatively equal stress on the subject *Jón* and the verb *kom* ‘came’, *Jón kom heim* ‘John came home’, and similarly for (14.43b) *Jón fór burt* ‘John went away’, makes place assimilation and frication less likely to occur.

(14.42) a. *JÓN[ŋ]kom heim* (assimilation more likely)

b. *'Jón[n] 'kom HEIM* (assimilation less likely)  
‘John came home’

(14.43) a. *JÓN [ṽ]fór burt*

b. *'Jón 'fór BURT*  
‘John went away’

It seems that the cohesion is primarily motivated by the strength relations.

A particularly interesting finding which seems to support the dependency view is the one reported by Dehé (2008) that Final Vowel Deletion is more likely when focus (and stress) is on the target (left) form, as with the vowel shown in bold in (14.44a) contrasted with (14.44b):

(14.44) a. *JÓNÍNA ætlar að baka köku* (FVD more likely)

‘JANINE is going to bake a cake’

b. *Jónína ætlar að baka KÖKU* (FVD less likely)

‘Janine is going to bake a CAKE’

This seems to speak against Selkirk’s proposal that a Focus constituent in informational or syntactic structure should be aligned with the right edge (presumably defined as some sort of boundary) of a major phrase in the phonological structure. On the contrary, the fact that the final vowel is more likely to be deleted on the focus element suggests that the dependency relation is the prime factor and that there is a close contact between a strong and a following weak constituent.

#### 14.6.2 Domains, directionality, and prominence

It is interesting to consider the workings and directionality of the cohesive laws discussed here, and to see what they may tell us about domain structure, directionality, and prominence relations.

It was concluded in Árnason (2009c) that in MI place assimilation, frication, and the length rule have the phonological foot as their domain; final vowel deletion and clitic formation on the other hand have the phonological word as their domain; and rhythmic rearrangement is defined with (some type of) phonological phrase as its domain. Place assimilation and the frication of nasals implies overlap between syllables within feet; final vowel deletion and clitic formation presuppose contact between feet within phonological words, and rhythmic rearrangement presupposes contact between words within phrases.

Leaving rhythmic rearrangement out for the moment, it seems that all of the processes involve spreading of material from left to right. For nasal assimilation and frication, the ‘effects’ move from left to right, so that the material in fact ‘spreads’ from weak to strong and the effects of the laws appear in the interlude between the strong and the weak member in a strength relation. It is thus clear that some sort of ‘visibility’ or passage between the adjacent constituents is necessary, suggesting that no boundary is involved. But the sensitivity to stress is obvious, since both nasal assimilation and frication are less likely to appear before stress than after stress. The domain within which these laws are applicable is thus the stress-foot, and the laws are built on contact between syllables.

Contact between syllables within a foot is also at work in resyllabification, as in (14.31a), so that in a form like *heim til hans* [heimtilans] the /t/ of *til* is incorporated into the foot creating a complex interlude, and the syllable is closed, calling for a short vowel. We can thus say that nasal assimilation, frication, and resyllabification have the foot as their domain, and the effect is the spreading of information from the weak position onto the strong one on the left.

Final vowel deletion is similar in that material belonging to the stronger member of the relation is ‘replaced’ by material from the weaker member. But all is not equal. For one thing we are not dealing with consonants in syllabic interludes, rather the process involves syllabic vowels. The phonological effects are thus not foot-internal, affecting the relation between syllables; rather they affect the number of syllables. And another feature which we have noted regarding FVD is that only a limited set of vowels is affected, namely the traditional ending vowels, those which are deleted in inflection and derivation. In fact we can probably say that the effects are defined one layer up in the phonological hierarchy, namely on the word level. The examples also show that, although FVD is sensitive to dependencies, it is not the case that the following syllable (containing the vowel which survives) has to be weaker than the preceding one (containing the deleted vowel). Thus the vowel of *ætlar* in (14.45) can have stress in a relatively deliberate utterance, even if the vowel of *Jónína* is deleted.

- (14.45) <sup>1</sup>*Jónín* *ætlar* *að baka köku* [ˈjou:nin,aitlarað]  
 ‘Janine is going to bake a cake’

The rhythm of <sup>1</sup>*Jónín* *ætlar* ‘Janine is going to ...’ is then similar to that of a compound like <sup>1</sup>*hafragrautur*, which has a secondary stress on the third syllable (cf. (14.1) above). This suggests that the constraints regarding FVD are in fact of the type we encounter in word phonology, and that we can interpret the domain of that constraint to be the phonological word. But, we note again, dependency seems to be a conditioning factor, that is a strong–weak relation is called for, only this time it is between a strong and a weak foot within a word. (It is also worth considering, since there is some correlation with accentuation, that the domain of FVD is an accent phrase.)

Questions relating to phonological constituency will be further discussed in Chapter 15 below. But returning, finally, to the topic of prominence and the organization of phonological information, discussed above in sections 8.2.2 and 9.6, it seems that the

workings of the slurring show a common thread, which may be related to the point made by Harris (2005a: 132) that hyper- and hypo-articulation are 'part of planned speech behaviour rather than an accidental by-product of vocal-organ inertia'.

The common thread of all the slurring processes, beside the rhythmic effects of alternating between strong and weak, seems to be that of putting more information into the strong parts and, as the case may be, moving it away from the weaker parts. Obviously, the reduction of unstressed syllables generally has the effect of neutralizing the information carried by these syllables. And we noted above that all the sandhi processes we have been looking at involve movement from left to right, that is from a relatively weak constituent on the left to a relatively strong one on the right. This could be seen as due to some sort of tendency toward anticipatory placement of information, and/or movement to more prominent positions. And obviously, this can result in the ousting of information already present in the strong position.

## RHYTHM AND INTONATION

It has been shown many times in previous chapters that, at least for Icelandic, considerable freedom prevails regarding the phonological scansion or mapping of morphosyntactic or lexicalized material onto phonological outputs. This means that there are a number of ways of ‘performing’ one and the same structure. The most important factors at work here are rhythm and intonation, which will be the main theme of this last chapter.

### 15.1 RHYTHM AND CONSTITUENCY

The (limited) freedom mapping between morphosyntax and phonology is reminiscent in many ways of the relationship between text and scansion in poetry. The different performances of a simple sentence like MI *Jón fór heim* ‘John went home’ with one, two, or three stresses, as in (15.1), can be described with the help of metrical terminology as an anapaest (two weaks and a strong), a dactyl, or a trochee plus spondee, or three spondees, depending on the metrical interpretation.

- (15.1)    w   w   s  
           *Jón fór heim*  
           s   w   w  
           *Jón fór heim*  
           s   w   s  
           *Jón fór heim*  
           s   s   s  
           *Jón fór heim*

Rhythmic ambivalence of this kind is easily pictured (and has been, cf. Hayes 1995) with the help of a grid of stars, as shown in (15.2):

- (15.2)                                \*  
                              \*   \*   \*  
       a. *Jón fór heim*  
  
                              \*                \*  
                              \*   \*   \*  
       b. *Jón fór heim*

\* \* \*  
\* \* \*

c. *Jón fór heim*

In this notation, the stars represent the strength of the relevant units (syllables or higher units), and brackets may be added to signal constituent structure (cf. e.g. Kager 2007: 198–200).

But we have also seen that although the rhythmic character of an utterance is not fully determined by its morphosyntactic ‘input’, it is clear, as shown in Chapter 14, that some rhythmic information can be taken as being lexicalized. Thus MI ‘major’ words (nouns, adjectives, verbs, adverbs . . .) are left strong ‘from the start’ and have pre-assigned foot structure, although function words (like prepositions and conjunctions) probably have no such inherent stresses, and some morphosyntactic words (such as those with unstressed prefixes, cf. (13.8)) have a different type of structure. And it is also possible that some phrases (such as definite noun phrases, cf. (14.11)) have a pre-assigned left-headed structure. These more or less regular principles combine to define what we may call the normal scansion of a sentence.

Applying the grid notation, we can say that at the ‘outset’ every syllable in an utterance gets an asterisk, but on the level above, feet are formed by placing stars at the left edge of each word, and on the next level a phrase is formed by placing an asterisk on the rightmost unit, as shown in (15.3). If we say that the first level (above the syllable) is that of the stress foot, then the second level will be that of the word, etc. We can thus use this simple notation to give an idea of the options available in the rhythmic organization of Modern Icelandic utterances.

- (15.3)
- |   |   |   |   |          |
|---|---|---|---|----------|
|   |   |   | * | (phrase) |
| * | * | * | * | (word)   |
| * | * | * | * | (foot)   |

*Jónína ætlar að baka köku*  
‘Janine intends to bake a cake’

This would represent a scansion where every foot is projected on Line 2, and there is just one phrasal stress (we will not be concerned with the exact type of phrase, accentual, intermediate, or intonational, cf. section 14.6). In (15.4) we have an example of an optional deletion (or lack of projection) of two stresses (those of the finite verb *ætla* ‘intend to’ and the non-finite *baka* ‘bake’):

- (15.4)
- |   |  |   |
|---|--|---|
|   |  | * |
| * |  | * |

*Jónína ætlar að baka köku*

In this case, a question arises regarding the type of constituent, that is, whether to take the accents in the first line as phonological word accents, in which case we have two phonological ‘words’, or as phrase accents, in which case we have two accentual

phrases or tone groups but one intonational phrase. We will leave this question aside here.

In (15.5) we have an example where the systematic deaccenting of the definite noun phrase *hestinn* ‘the horse’ described in section 14.2.2 has the effect that the DTE is supplied by the preceding word.

- (15.5)
- |   |   |   |   |          |
|---|---|---|---|----------|
|   |   | * |   | (phrase) |
|   | * | * |   | (word)   |
| * | * | * | * | (foot)   |

*Ég gaf Jóni [GAMLA hestinn]*  
I gave John the old horse

In the representation in (15.5) the noun phrase *gamla hestinn* ‘the old horse’ is treated in the same way as the compound *gamalmenni* ‘old person’, that is with one word stress.

In the case of unstressed prefixes (cf. (13.8) in section 13.1.1) we can assume that we are dealing with ‘un-worded’ feet. These structures can be uttered without projecting the feet representing the unstressed prefix to the word level, as shown in (15.6):

- (15.6)
- |   |   |   |          |
|---|---|---|----------|
|   |   | * | (phrase) |
| * |   | * | (word)   |
| * | * | * | (foot)   |

a. *Ég var hálf-hissa*

‘I was a bit surprised’ (literally: ‘half-surprised’)

- |   |   |   |          |
|---|---|---|----------|
|   |   | * | (phrase) |
| * |   | * | (word)   |
| * | * | * | (foot)   |

b. *Hann er ó-vitlaus*

‘He is not stupid (literally: ‘un-stupid’)

Clitic constructions like *treysti honum* ‘trust him’ and *treysti þeim* ‘trust them’, mentioned in section 12.9.2, where we have reduced forms of pronouns and some other verbs, can be taken as phonological words:

- (15.7)
- |   |   |                  |
|---|---|------------------|
|   | * | Level 3 (phrase) |
| * | * | Level 2 (word)   |

a. *Ég treysti honum* [t<sup>h</sup>treistɔnym]

‘I trust him’

- |   |   |                  |
|---|---|------------------|
|   | * | Level 3 (phrase) |
| * | * | Level 2 (word)   |

b. *Ég treysti þeim* [t<sup>h</sup>reistuðeim]

‘I trust them’

The fact that forms like /t<sup>h</sup>reistǫnym/ and /t<sup>h</sup>reistðeim/ abide by phonotactic constraints valid for underived words belonging to the traditional vocabulary may be interpreted as a sign that they form the same type of construction as words like *stelpunum* [stɛlˌpʊnʏm] ‘the girls’ and *kölluðum* [k<sup>h</sup>œtˌlʏðʏm] ‘(we) called’. Interpreted in this way they do not supply evidence for assuming ‘clitic group’ as a special domain in Icelandic (cf. Árnason 2009c).

Forms where FVD takes place can be treated similarly, that is as phonological words, as shown in (15.8):

- (15.8)
- |   |   |   |                    |
|---|---|---|--------------------|
|   | * |   | * Level 3 (phrase) |
| * |   | * | * Level 2 (word)   |

*Nonn(i) ætlar að far(a) á fund*  
 ‘Johnny intends (is going to) to go to a meeting’  
 [nɒn:aihtlarað,fa'rau'funt]

Here the forms *Nonn' ætlar* [nɔn:aihtlaʁ] and *far' á* [fa:rau] have the same sort of structure as compounds like *fjölfætla* [fjœlfaihtla] 'centipede' and *stórá* [stou:rau] 'big river'. And, as we have already seen in section 14.4.1, the pattern of FVD is the same as the one seen in inflection in terms of the vowels deleted in that it applies only to the traditional ending vowels /ɪ/, /ʏ/, and /a/.

The pragmatically motivated exceptions described in section 14.3 show that a relatively direct mapping can occur between stylistic and pragmatic features such as focus and information structure on the one hand and the phonological structure of utterances on the other. Two types of cases showing this were mentioned: what was called ‘emphatic rephrasing’, and contrast and focus.

It is easy to represent the emphatic rephrasing style with scansion expressed as a grid of the type used here. The normal scansion would give something like (15.9):

- (15.9)                \*                (phrase)  
                        \*                \*
- (word)

*Hann er hríkalegur*  
'He is terrible'

The effect of rephrasing is that on the phrasal level the rightmost “word” receives the phrasal stress as shown in (15.10):

- (15.10)                      \*                (phrase)  
                                \*                \*
- (word)

*Hann er hrika-LEGUR*  
H HL  
'He is (really) terr-IBLE'

Given this structure, the placing of the H tone on (the first syllable of) *ómögu-* is of the same type as in utterances like (15.11), where the adjective *líkur* gets an H tone:





- (15.15)                \* (phrase)  
                        \*     \*     \* (word)

*Dávur spælið fótbólt*  
[ˌtɔa:vʊɪspɛalɪˈfɔu:(t)pɔlt]  
'David plays football'

And the careful utterance style of *Ýmist úr Hestsøgu* (Speaker T-36), given in (14.17), can be given the scansion in (15.16) with two stresses on the word *Hestsøgu* ‘the story of Hestur’:

- (15.16)                \* phrase  
                        \*     \*     \* word

Ýmist úr Hestsøgu  
HL !HLH%

Less careful scansions are used in the examples shown in (14.34). Thus, in example (14.34c), repeated here as (15.17), it can be said that only two word stresses are fully projected:

- (15.17)  $\begin{matrix} * \\ * \end{matrix}$

*Pápi mín er faktiskt foddur í Svínøi* (Speaker K-9)  
[p<sup>h</sup>ɑ:pmiɛfaktsfɔtʊrɪ'svɔi:nə]  
'My dad is in fact born in Svínøi'

## 15.2 ICELANDIC INTONATION

Considerable work has been done on Icelandic intonation, and proposals have been made toward its analysis, although some unresolved questions remain to be settled (cf. Bergsveinsson 1941; Pétursson 1978, 1979; Thráinsson 1983; Árnason, 1994–95, 1998b, 2005a; Dehé 2006, 2009, 2010).<sup>1</sup>

A typical intonational contour for an MI sentence like the one in (14.1) is with an H on the first syllable of *hafragraut* ‘porridge’, which forms the Designated Terminal Element (DTE) of the phrase, followed by a lowering which may be analysed as due to a low boundary tone and a low phrasal tone. The nuclear accent may be preceded by a prenuclear accent on relatively prominent syllables, as shown in (15.18):

<sup>1</sup> See Pierrehumbert (1980), Ladd (2008[1996]), and Gussenhoven 2007 for the theoretical framework and analytic tools. The description of Icelandic intonation (unless otherwise noted) is based on impressionistic observation of my own speech, with stylized graphs above the text sentences and proposals for tonal analyses written under the text.

(15.18)

*Nanna borðar HAFRAGRAUT*

[nānapørðar'hävrakrøyt]

H            !H L-L%

'Nanna    eats porridge'

15.2.1 *The tonal inventory*

According to Árnason (1998b, 2005a: 456–79) the basic tonal inventory of MI consists of two nuclear accents, analysed as \*HL or \*LH respectively, and a low and a high boundary tone, as illustrated by the sentence *Góðan daginn*:

(15.19)

a. *Góðan DAGINN*b. *Góðan DAGINN*

In Árnason (1998b, 2005a), the tonal downturn following the nuclear High in (15.19a) is taken to be due to the low part of an H\*L bitonal accent, which is then followed by an L%. But recent work by Dehé (2010) suggests that the lowering following the H does not have to occur immediately after the accented syllable, which might be interpreted as an indication that the lowering is due to a low edge tone or phrasal accent.<sup>2</sup> Dehé also finds evidence for a low lead to H\* accents in examples comparable to (15.19a), suggesting that actually the tone is a right-headed LH\*. According to this the tonal pattern in (15.19a) should be taken to be LH\* L- L%, that is a high nuclear accent preceded by a low lead and followed by an L- phrase accent and then an L% boundary tone at the end of the Intonational Phrase. As regards (15.19b), Dehé's findings confirm the existence of an L\*H bitone which is consistent with the analysis proposed in Árnason (1998b, 2005a).

A stylized representation of utterances with a prenuclear and a nuclear accent with broad focus in Dehé's analysis is given in (15.20):

(15.20) *Icelandair flýgur frá Malasíu til Reykjavíkur*

L\*H            !LH\*    L%

'Icelandair flies from Malaysia to Reykjavík'

Thus in the prenuclear accent on *Malasíu* 'Malaysia' the H occurs after the stressed syllable as a trail following the L\*, whereas the rise belonging to the nuclear accent on *Reykjavíkur* is aligned earlier, that is on the stressed syllable, but preceded by a low lead. The final low is seen to be due to a phrasal tone, rather than belonging to the nuclear accent.

In addition to the pitch accents Dehé (2009: 22–3), finds evidence for high and low phrase accents following monotonal (low or high) nuclear accents (H\* or L\*), as in the examples in (15.21):

<sup>2</sup> Edge tones, according to this interpretation, are boundary tones (T%), associated with an Intonational Phrase (IP), and phrase accents (T-), associated with an Intermediate Phrase (ip) (Dehé 2009: 7).

(15.21)



- a. *Elísabet borðar appelsínu*  
 (H) L\* L-H%  
 'Elisabeth eats an orange'

vs



- b. *Jón kastaði út appelsínunni*  
 (H) L\* H-H%  
 'John threw out an orange'



- c. *María gaf Elínu appelsínu*  
 H\* H-L%  
 'Mary gave Elaine an orange'

In (15.21a) the phrasal L- is taken to be responsible for the delay in the rise belonging to the final H%, and in the others, the (relatively) high tonal curve following the accent is taken to be due to a phrasal H- between the accent and the boundary tone.<sup>3</sup>

Slightly longer utterances, using the same tonal patterns as in (15.21), are shown in (15.22), analysed according to Dehé's findings (but showing the impressionistic curves given in Árnason (2005a: 462)):

(15.22)



- Nanna kemur BRÁÐUM*  
 LH\* (L-) L%  
 'Nanna comes soon'



- Þarna er bóndinn á RAUÐÁ kominn*  
 L H\* L-L%  
 'There is the farmer at Rauðá come'  
 'Now, the farmer at Rauðá (the farm) has arrived'



- Ég er hérna með BÓK til að lána þér*  
 LH\* L-L%  
 I am here with a book to lend you

<sup>3</sup> It is not clear whether the phrasal tones should be associated with individual syllables or whether they are floating. One possibility suggested by Dehé is that the anchor point of a phrase accent may be a post-nuclear, lexically stressed, syllable or a secondarily stressed syllable in the same word as the nuclear accent.

High–Low–High sequences are common in Icelandic. Examples of this (taken from Árnason 2005a: 462–3), are given in (15.23):

(15.23)

- a. *Parna er bóndinn á RAUÐÁ kominn*  
 There is the farmer at Rauðá come  
 ‘Now, the farmer at Rauðá has arrived’

- b. *Ég er hérna með BÓK til að lána þér*  
 I am here with a book to lend you  
 ‘Here’s a book that you can borrow’

- c. *Mér finnast góð KRÍUEGG*  
 Me find good terns’ eggs  
 ‘I like terns’ eggs’

In Árnason (2005a: 462–3) these contours were analysed as a sequence of H\*L pitch accents and H% boundary tones. But in view of Dehé’s findings they might be analysed as a sequence of a (L)H\* followed by an L- phrase accent, which in turn is followed by final H%. The final rise seems to express some sort of non-finality or an objection to the literal meaning or something which was said before. Thus an utterance like (15.23a) might be interpreted as indicating that the arrival of the farmer is contrary to what might have been expected; the utterance in (15.23b) could be interpreted as an encouraging suggestion to read a book, whereas in (15.23c), the implication is that the speaker likes this particular type of eggs, but not others.

According to Árnason (1998b), the L\*H-pitch accent, that is a relatively late rise on an accented syllable, whose existence is, as we have seen, confirmed by Dehé (2010), is the marked one relative to the other accent type (i.e. with a starred H\*). It is common before high boundary tones, as in (15.24), which has a connotation of something like a friendly suggestion:

(15.24)

- Eigum við að koma til NÍNU DÓRU?*  
 L\*H    H%  
 Shall we come to Nína Dóra  
 ‘Shall we visit Nina Dora’

Here the high rise at the end is likely to serve a special function, and the use of the L\*H could then perhaps be seen as a tonal adaptation or assimilation to the rise. But

L\*H may also occur before a Low boundary tone, as shown in (15.25), which is a more neutral type of question:<sup>4</sup>

- (15.25)
- 
- Ætlið þið að fara til Nínu Dóru?*  
 LH L%
- Intend you to go to Nína Dóra  
 'Are going to visit Nina Dora?'

An example showing a relatively early placement of an LH accent is shown in (15.26):

- (15.26)
- 
- Er það Dísá sem er komin?*  
 LH L%
- 'Is it Dísá who has arrived?'

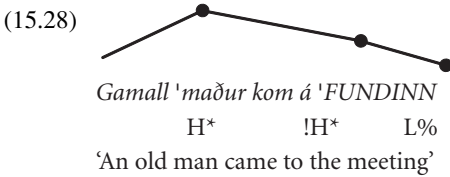
In this case the final lowering of  $F_0$  is gradual, and may be interpreted as a low boundary tone, although it is possible that phrasal accents have an effect on the contour, for example to stretch or shorten the High tonality. Generally, it seems that the L\*H pitch accent is more common in questions than in statements, although there may be both local and individual variation which remains to be investigated.

In the examples given above, we have seen instances of high or low boundary tones, marking the ends of phrases. And these tones can also be used in longer constructions, involving more than one phrase forming intonational paragraphs or utterances, as in (15.27), taken from Árnason 2005a: 465):

- (15.27)
- 
- Ég ætla að heimsækja 'Ingu Dóru, af því að mér finnst hún 'skemmtileg*  
 LH H% !HL L%
- 'I'm going to visit Inga Dóra because I find her entertaining'
- 
- Þótt Jón sé góður í 'sundi, er hann afleitur í 'fótbolta*  
 LH H% !HL L%
- 'Although John is a good swimmer, he's a terrible footballer'

<sup>4</sup> Sound file: NinaDora.mp3

It is also possible for two phrasal accents to occur in one intonational phrase, as defined by a boundary tone, as in (15.28) (again taken from Árnason 2005a: 465):



### 15.2.2 Downstep and upstep

As can be seen from (15.28), downstep (in the sense of 'grammaticalized declination', cf. Gussenhoven 2007: 266) occurs in MI. A further example illustrating this (taken from Árnason 2005a: 467) is given in Fig. 15.1 and in a stylized transcription in (15.29):<sup>5</sup>

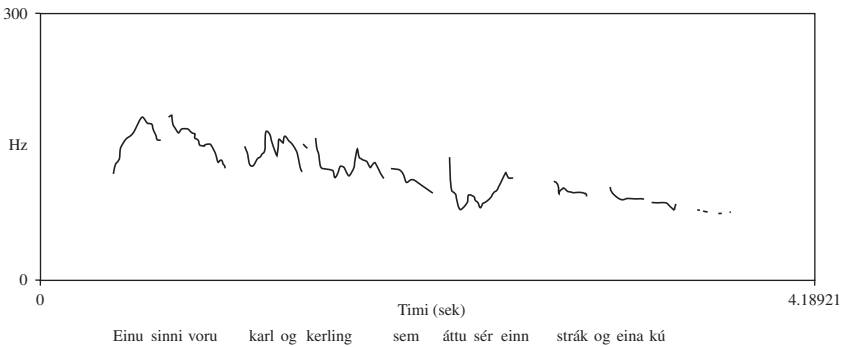
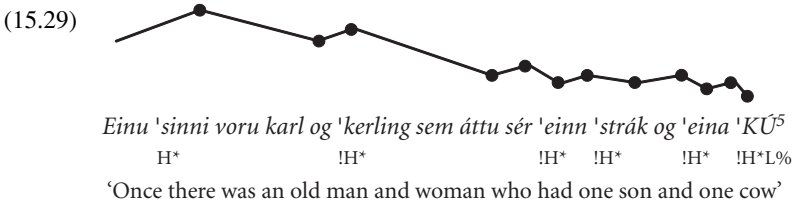


FIGURE 15.1 Declination in the reading of the utterance: *Einu 'sinni voru karl og 'kerling sem áttu sér 'einn 'strákr og 'eina 'kú* 'once there was an old man and a woman who had one son and one cow'



The utterance in (15.29), which has a sequence of downstepped Highs, followed by a Low boundary tone, is typical of a careful reading style.<sup>6</sup>


<sup>5</sup> Sound file: Karlogkerling.mp3.

<sup>6</sup> In Árnason (1998b: 60–1), it is suggested that the downstep contour in (15.29) is typical of what might be called closed listings or counts, whereas in so-called open counts, where the number of the enumerated items is unknown until the end, and where Low–High contours are typical, downstep is less likely. It is


But although downward movement is the most common overall pattern in utterances, as well as shorter phrases, the opposite may occur. Thus according to Dehé (2009: 25) accents expressing narrow focus are not downstepped, so that the second (focal) stress of an utterance like the one in (15.30) has equal or higher pitch than the first one (for the sake of illustration only the peaks are given):

- (15.30) *María gaf [Elínu]<sub>Foc</sub> appelsínu*  
 H\*            H\*            !H  
 ‘Mary gave Elaine an orange’


Here we have three pitch accents; the last one is downstepped, but not the middle one, which is focal. A similar example (taken from Árnason 2005a: 470) is shown in (15.31):

- (15.31)   
*Jón er góður í SUNDI*  
 H\*                    ^H\* L%  
 ‘John is good at swimming’

Another example showing lack of downstep, is shown in (15.32):

- (15.32)   
*Eigum við að koma til 'Nönnu, eða 'NÍNU Dóru?*  
                                  L\*H                    L\*H    H%  
 Shall we come to Nanna or Nína Dóra  
 ‘Should we visit Nanna or Nina Dora?’

Here we have a final High boundary tone preceded by two L\*H accents without downstep taking place. It might be suggested that the lack of downstep is due to the presence of the final H%. And in fact we seem to have downstep in (15.33), which is similar to (15.32), but with a Low boundary tone:

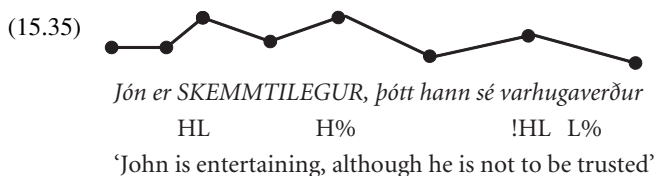
- (15.33)   
*Við getum farið til 'Nönnu eða NÍNU Dóru*  
                                  HL                    !HL    L%  
 We can go to Nanna or Nína Dóra  
 ‘We can visit Nanna or Nina Dora’

possible to look at an open count as a sequence of tone groups. In fact in these open counts, there is often a slight ‘hesitation’, marked by boundary tones, and we can then say that each unit in the count forms an intonational unit, either an Intermediate Phrase (ip) or Intonational Phrase (IP) of its own. (Sound file KaffiTeMjolk.mp3).



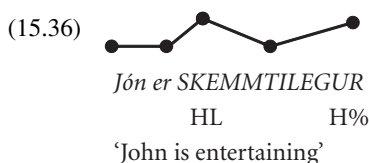


Another instance of two Intonational Phrases with boundary tones forming one Utterance (or paragraph) is shown in (15.35):



In this utterance, it is stated that although John is a lot of fun, he should not be trusted; it is possible to interpret the rise at the end of the concessional statement as a warning, that this is not all that can or should be said about John.

And the first part can occur alone, as in (15.36):



Here the implicature might be the same as in (15.35), but the utterance could also be interpreted as an ironic statement, implying the opposite of the literal meaning.

These interpretations are consistent with the suggestion above that the main function of the boundary H% is to mark non-finality in a rather broad sense. The function of the H% is to signal some qualification to the message carried by the 'literal' meaning of the sentences. This can also be said of the examples in (15.23) and (15.24)], as pointed out on p. 316.

### Contrast, focus, and deaccenting

It is well known that intonation and sentence stress may be used to signal contrast and focus. In fact, the utterance in (15.23c), repeated here as (15.37), is contrastive in the sense that that speaker's fondness for terns' eggs is not what might have been expected, for example with respect to his general dislike of wildfowl eggs.



This seems to be a common way of using High–Low–High patterns in Icelandic. We will not go as far as saying that this HLH contour forms an intonational unit or word in some sense, but the meaning–form mapping seems to be rather consistent.

Dehé's (2010) study of tonal alignment suggests that the effects of focus in intonation are mainly that the contours of contrastively accented syllables have earlier F0 peaks than non-focused prefinal syllables, and that they are more marked in some

sense: ‘In the prefinal nuclear accents [representing focused forms], an immediate fall on the target word to low level in the speaker’s tonal range can be observed, while in the [non-focus] prenuclear accents, there is no such rapid downward pitch movement.’ (2010: 29).

An interesting finding presented by Dehé is that different degrees of lengthening of stressed syllables seem to be sensitive to order and constituent structure, so that syllables carrying earlier accents tend to be longer than those carrying later accents. Thus, although the choice of accent type seems to be related to focus structure, the durational differences have more to do with purely rhythmic characteristics or style and emphasis.

A well-known phenomenon from the study of other languages is deaccenting of given information so that repeated words are unstressed (see Ladd 2008: 23–6). Here Icelandic seems to differ from languages like English, as shown by Nolan and Jónsdóttir (2001; cf. also Dehé 2009: 19). Thus in utterances like (15.38), the second occurrence of *epli* ‘apple’ does not have to be deaccented:

- (15.38) *Ég gaf henni epli, en hún borðar ekki epli*  
 ‘I gave her an apple, but she doesn’t eat apples’

But it seems that informationally ‘light’ forms may well be deaccented, as in (15.39):

- (15.39) *Það er JÓN sem er góður í sundi*  
                     HL                                    L%  
 It is John who is good at swimming  
 ‘It’s John who is a good swimmer’

Here we have a single focus on the subject, Jón, which takes an accent, but the complement *góður í sundi* ‘good at swimming’ has no accent. But the same sentence can also be uttered with a double focus, as in (15.40):

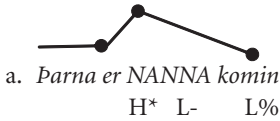
- (15.40) *Það er JÓN sem er góður í 'sundi*  
                     LH\*                                    !H\*L-L%  
 ‘It is John who is the good swimmer’

In this case, there are two accents, one on the subject, and another on (the rightmost part of) the predicate. This utterance conveys the information that John is the good swimmer, whereas someone else is, for example, the good footballer.

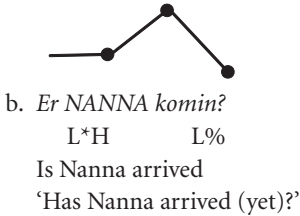
### Question intonation

It is suggested in Árnason (2005a: 475–6) that the early rise is the more normal accent, whereas the late rise or L\*H is used under special circumstances. Thus (for some speakers at least), the (L)H\* is typical of simple statements, whereas the L\*H is typical of questions, as shown in (15.41):

(15.41)

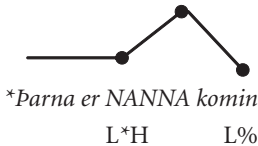


There is Nanna arrived  
 'Nanna is here now'



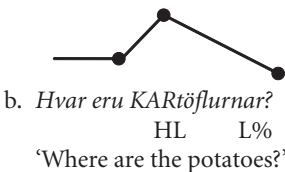
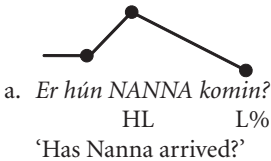
A pattern like the one in (15.41b) would be unnatural in a statement using a sentence like the one in (15.41a):

(15.42)



But the early rise H\* can also be used in questions, either yes/no questions or Wh-questions:

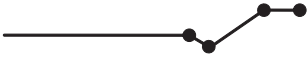
(15.43)



As can be seen, it is typical for MI questions (less so for Faroese ones) to have Low boundary tones. Questions with final rises, like the one in (15.32), have special connotations. Here, Icelandic differs from Faroese, as we shall see in section 15.3 below.

### Geographic variation

Little is known about geographic variation in Modern Icelandic intonation, but (as noted in Árnason 2005a: 479) speakers from the northern parts of Iceland are more likely to use High boundary tones, as in the example in (15.44):

- (15.44) 
- Hann ætlaði alveg að GEFA sig*  
 L\*H H%
- He was going to completely give himself  
 'He was almost desperate'

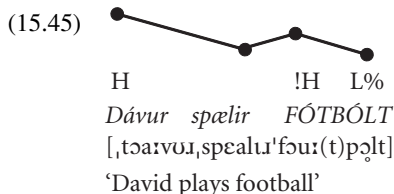
The suggested analysis implies that the difference lies in the use of the H% boundary tone and the use of L\*H as a pitch accent. According to folk-linguistic legend, speakers from the south have the impression that those from the north are prone to showing anger or irritation more often than others, suggesting that final rise has a more neutral function in some northern varieties.

## 15.3 FAROESE INTONATION

Less is known about the intonation of Faroese than Icelandic, and accordingly the observations made here must be seen as preliminary, pending further research.

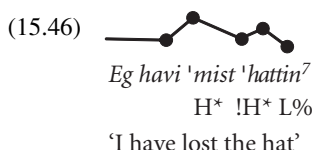
According to scholars like Lockwood (1955) and Hagström (1967, see also Bjerum 1964), there are two main patterns in Faroese intonation: falling and rising. In Lockwood's words (1995: 25), '[s]hort assertions are spoken with a level intonation until the significant stress is reached, when the pitch falls abruptly'. But '[i]n longer assertions, the pitch rises at the first emphatic syllable, then descends gradually to fall abruptly at the last significant stress'. According to Lockwood, questions have a rising intonation throughout. Hagström (1967: 43) also distinguishes between falling and rising patterns, and agrees with Lockwood that questions normally have a rising intonation, although he notes that wh-questions may have a falling contour. Hagström also notes that 'continuation intonation' (*fortsättningstonfall*) at the end of a phrase is often realized with a rising melody.

According to my own observations, it seems that a typical contour for an MF declarative utterance corresponding to (14.2) (see section 14.1) could be something like what we see in (15.45):



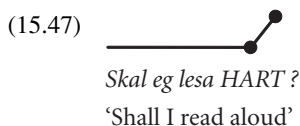
In fact, it seems to be common, as pointed out by Lockwood and Hagström, for phrases to start on a high pitch (relative to Icelandic at least), and to move downward. This downward movement can probably be analysed in terms of downstep and Low boundary tones, but it remains to be seen how nuclear accents like the one on *fót-* and what might look like a prenuclear one on *Dávur* should be analysed, and what sort of tonal unit is responsible for the relatively high pitch which commonly appears at the outset of utterances.

Another contour from my data is shown in (15.46):

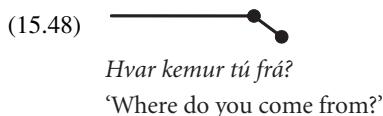


In this utterance, there are two accentual peaks which can be interpreted as pitch accents involving a rise, that is some sort of H tones, and the latter one has a clear downstep. The style of this utterance is a careful reading style; both the verb and the object are stressed; it is not clear from the surroundings whether some contrast or focus is intended, nor indeed which stress should be taken as the 'stronger', as for example due to focus marking.

My own observations confirm earlier impressions that the final rise in questions is more common than in Icelandic, as in a typical form (Speaker T-1).



But falling intonation can be heard in Wh-questions, as in (15.48):



Several observations have been made in the literature regarding regional differences in intonation. Thus the intonation in Vágar, the westernmost island, is known to be special, and in folk linguistics this characteristic goes by the name of *drynjan* or

<sup>7</sup> Speaker BS.

*drynjing* ‘grunting’. According to Hagström (1967) the tonal melody so characterized is an even falling curve with lengthened syllables and a clear pronunciation of the endings using the same tonal curve as the preceding syllable.<sup>8</sup> But although this characteristic is well known in folk-linguistic discussion (and seems to be stigmatized), it is rather rare and seems to be dying out.

Hagström (1967) also notes that the intonation in Suðuroy is markedly different from other places, being marked by constant alternation between upward- and downward-moving melodies.<sup>9</sup> Although this needs further study, it seems that some informants from Suðuroy (e.g. Tv-3 (an elderly male) and Tv-4 (a young female)) have intonational patterns that might fit Hagström’s description. Impressionistically, this sounds like being due to frequent use of Low–High contours in the middle of utterances, which might be analysed as L\*H, that is as pitch accents with a relatively late rise associated with stressed syllables.

#### 15.4 THE ABSENCE OF WORD TONES

A question relating to the tonal structure of Modern Icelandic and Faroese is whether they have, or have had, word tones or lexically specified accentual features similar to the ones found in Norwegian and Swedish varieties. (See e.g. Bruce 1977; Riad 1998b; Lahiri et al. 2005 for synchronic descriptions and analyses.) The short answer to this question is that we have no evidence that such word accents ever had any function in Icelandic or Faroese.

Although Hægstad (1916: 68–71 and others) had maintained that such word tone distinctions occurred in Faroese, the careful study by Selmer (1924) found no evidence to support this claim. According to Selmer (1924: 48–50) the putative Accent 2 pattern (*dobbeltonelag*) does not show any divergent melodic properties from putative Accent 1 (*enkelttonelag*) words. In his concluding remarks Selmer ascribes this lack of word tones in MF to Danish influence, which led to the elimination of the original Norwegian pattern which had two distinct word tones. (See also Hagström 1967: 44–5.)

Although some scholars have suggested that Icelandic made a distinction between two word accents at earlier stages in its history (see Ottósson 1986 for an overview), this must be seen as very doubtful. Among the arguments put forth to this effect is that the distinction may have had an influence on the metrical behaviour of different word forms (Karlsson 1964), and some peculiar tonal phenomena in later speech. But as shown by Sigmarsson (2000) the evidence is very scanty indeed.

The most widely accepted interpretation of the origin of the tonal distinction in Norwegian and Swedish is that it developed in late Proto-Nordic, after the syncope

<sup>8</sup> ‘Utmärkande är en jämnt fallande melodikurva med utdragna betonade stavesler och tydligt uttal av ändelserna på samma höjd som föregående stamstavelse’ (Hagström 1967: 44).

<sup>9</sup> ‘Helt annorlunda är den dominerande satsmelodin på Suðuroy. Intonationen utmärks här af en ständing växling mellan uppgående och nedgående språkmelodi’ (Hagström 1967: 44).

period, and according to Riad (1998a: 63) this is a 'Scandiavian innovation', and Proto-Nordic secondary stress was essential to its development. The idea is that the word accents are lexicalized phrasal contours, so that phrase final pitch shapes, relating to whether the final syllable was stressed or not, were interpreted as word accents (cf. Lahiri et al. 1999: 368). Disyllabic words would have a different phrase final contour from monosyllabic ones, and this distinction would be lexicalized in principle as bitonal Accent II. And after the development of new disyllabic forms, through vowel epenthesis of originally monosyllabic forms like *akr* 'field' > *aker* (cf. MI *akur*), *fågel* 'bird' (cf. MI *fugl*), *vatten* 'water' (cf. MI *vatn*), and enclitic definite forms like *nót-in* 'the net', which as monosyllables had inherited the other pattern, disyllabic forms with Accent I were created.

But it is not clear that this tone structure, which is due to a secondary development that was completed around the end of the twelfth century, must have been present throughout the Nordic area, specifically in West Nordic. Echoing Riad's words, this being a 'Scandinavian innovation' does not necessarily mean that it included West Nordic. So, given the lack of evidence, there is little reason to assume that Icelandic or Faroese ever had this distinction. The phonologization or lexicalization of the accentual opposition was connected to the development of new disyllabic forms, created by epenthesis and enclisis of the definite article. And although West Nordic, as well as East Nordic, underwent both epenthesis and cliticization of the article, the details of this development were different, at least in the case of the former. In Swedish, for example, the epenthesis occurred before word final /r/, /l/, and /n/, whereas in West Nordic, it only took place before final /r/. There is also a time difference. The Swedish epenthesis is thought to have taken place from about 1200 (cf. Riad 1992: 249), but, as shown by Kristinsson (1987, 1992), the change was not completed in Icelandic until the fifteenth or even the sixteenth century. So, although the historical and intonational prerequisites for a similar development may well have been present in West Nordic, it is by no means clear that they formed sufficient conditions for the establishment or lexicalization of the tonal differences in all Nordic varieties.



## A NOTE ON PHONETIC DATA

The phonetic transcriptions of Icelandic given in this book are, unless otherwise noted, based on careful word-list pronunciation, which is why final devoicing is typically represented in the examples, for example, as in *fór* [fou:r̥] ‘went’, which in connected speech would have a voiced final /r/: *fór inn* [fou:rɪn] ‘went in’. The transcriptions usually represent variants belonging to the most common variety, which means, for example, that a form like *tapa* ‘to lose’ is typically cited as [t<sup>h</sup>a:pa], in the manner of the ‘soft’ variant (rather than the ‘hard’ variant [t<sup>h</sup>a:p<sup>h</sup>a]), and *hjálpa* ‘to help’ is typically cited in the style of the ‘voiceless’ variant: [çauɭpa], rather than the voiced one: [çaulp<sup>h</sup>a]. Such variant forms are given only when occasioned by the discussion.

The Faroese data are partly based on reports in the literature, and partly on interviews with specialist informants (notably Faroese linguists like Eivind Weyhe, Jógvan í Lon Jacobsen, Zakaris Hansen, Anfinnur Johansen, and last but not least Hjalmar Petersen). But I have also made use of the product of my own fieldwork in the Faeroes in August 2008 and November 2009, and in Copenhagen in September and October 2008. These are mostly recordings of the speech of native informants from various locations in the Faeroes. The phonetic analyses of these data are my own, partly impressionistic, but partly with the help of software from PRAAT. (The original recordings and the identity of the speakers can be traced, and the recordings made available on request, although the identity of the speakers is ‘crypt-coded’ with abbreviations.)

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