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MODERN ICELANDIC PREASPIRATION FROM THE PHONO-LOGICAL POINT OF VIEW

Summary. The paper deals with the phonology of modern Icelandic preaspiration. The rule that produces the non-lexicalised cases of preaspiration before what is written as p, t, k + l, n is different for harđmæli and linmæli. The hard mæli rule generates preaspiration before an aspirated plosive + /l, n/. (The aspiration of the plosive is obliterated by a later deaspiration rule.) The linmæli rule generates preaspiration before plosive + /l,n/ just in case there is at least one such form in the inflexional paradigm of the word-form to which the rule is to apply containing a long vowel immediately followed by a plosive (where the vowel and the plosive are those mentioned in the structural description of the preaspiration rule). - All instances of preaspiration in what is written as pp, kk(j), and some instances of preaspiration in what is written as tt, are lexicalised. The non-lexicalised instances of preaspiration in what is written as tt are produced by morphological rules. - Appendix A deals with Southern Icelandic quantity, Appendix B with such non-lexicalised /đ/ as occurs, say, in the nom. sg. stóll of stól- "chair".[1]

<u>1.</u>   Preaspiration is one of the characteristic features of modern Icelandic. It is pronounced as the initial part of what is written as <u>pp, tt, kk,</u> before what is written as <u>p, t, k</u> + <u>l</u>, <u>m</u>, <u>n</u>, and sometimes before or in what is written as <u>tk.</u> Examples: <u>Kleppur</u> name of a hospital in Reykjavík, dóttir "daughter", <u>ekki</u> "not", <u>epli</u> "apple", <u>lapm</u> "old felow (used in addressing a person)", <u>opna</u> "open (vb)", <u>ætla</u> "intend", étnir "eaten (nom.pl.m.)" <u>rytmiskur</u> "rhythmic", <u>jöklar</u> "glacier (nom. pl.)", <u>drakma</u> "drachma", <u>auknir</u> "augmented (nom. pl.m.)", <u>notkun</u> "usage", sometimes pronounced as [noh(d̥) g̊Yn].   All graphemes of each grapheme cluster enumerated above must pertain to the same simplex word if the preaspiration is to be pronounced - disregarding cases to be discussed in sections 4.1.2.4 - 5 and 4.2.2 below. Furthermore, such grapheme clusters must be preceded by a vowel (not only in pronunciation but also in spelling, barring rare cases such as <u>fernt</u> "four parts", one of whose pronunciations is [fehd̥]), which in turn means that they cannot be preceded by preaspiration if in word-initial position (no preaspiration before the <u>kn</u> of <u>knýja</u> "knock", before the <u>kl</u> of <u>klukka</u> "bell", before the <u>pl</u> of <u>pláss</u> "open place") or in postconsonantal position (no preaspiration before the <u>tn</u> of <u>montn-</u> of <u>montinn</u> "boastful"). The grapheme clusters under discussion contain at least one plosive grapheme. One condition for the preaspiration to be pronounced is that one or the plosive grapheme of the grapheme cluster is actually pronounced as a plosive. Cf. gen. sg. <u>stakks</u> of <u>stakkur</u> "stack", where the preaspiration is pronounced in the variant [sd̥ahg̊s] , and is not pronounced in the variant [sd̥axs].

<u>2.</u>   The phonetics and phonology of the Icelandic preaspiration have been repeatedly discussed in the literature. See Garnes 1976, Magnús Pétursson 1974, Kristján Árnason 1977, Höskuldur Thráinsson 1978, and the references given there. The phonetics of preaspiration lies outside the scope of the present paper; my notation for preaspiration, [h] and /h/, is just a notation, not an expression of my bias for one or another phonetic theory of Icelandic preaspiration. The expression "infix /h/" used passim below is no more than a manner of speaking. In the present paper I shall only be concerned with the phonology of preaspiration, more precisely, I shall first of all endeavour to remedy what I think is a drawback of the two· most recent treatments of the subject, and the only ones in the vein of generative phonology, Kristján Árnason 1977 and Höskuldur Thráinsson 1978. The problem can be described as follows. Barring rare and obsolescent exceptional pronunciations (such as <u>Jakob</u> man´s name, <u>Japan</u> "Japan", <u>Italía</u> "Italy", <u>dúkat(ur)</u> "ducat", see Jón Ófeigsson in Blöndal 1920–24: XXIII – XXIV and Björn Guðfinnsson 1946: 211) the Icelandic dialect called linmæli (spoken by over two thirds of the population, including the inhabitants of the capital Reykjavík) lacks aspirated plosives in intervocalic position. E.g. <u>jökull</u> "glacier" is pronounced with the unaspirated plosive [g̊] not

only in the contracted (jökl-), but also in the non-contracted (jökul-) case forms. Now, since there is no preaspiration before b, d, g, + l, m, n, or in bb, dd, gg, Kristján Árnason and Höskuldur Thráinsson were forced to posit underlying aspirated plosives in words such as jökull even in linmæli [2] and to assume that the preaspiration arises before / p^h, t^h, kj^h, k^h/ + /l, m,n/, for instance in the contracted jökl-, whereupon the aspiration of the plosives is obliterated in the position immediately after preaspiration:

$$jök^hYl+ar$$

vowel syncope $jök^hlar$

preaspiration $jöhk^hlar$

deaspiration   jöhg̊lar
                    jöklar[3]

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2   The readers' attention is drawn to the fact that Höskuldur Thráinsson uses the notation /p,t,k/ for the plosives with [+spread glottis] (phonetically: aspirated), and [p,t,k] for the plosives with [−spread glottis] (i.e. unaspirated).

3   This derivation summarises Kristján Árnason's treatment. Höskuldur Thráinsson's derivation of words such as jöklar is more complicated. Not only does he posit an underlying aspirated plosive in the root of jökull even in linmæli, but he also postulates, without any motivation but the "free-ride" principle, a rule geminating aspirated plosives before /l, m, n/, so that the derivation begins as follows:

$$jök^hYl+ar$$

vowel syncope $jök^hlar$

gemination $jök^hk^hlar$

The continuation of this derivation is somewhat uncertain. I assume that Höskuldur Thráinsson's rule (28) first deletes the supralaryngeal features of the left /k^h/ and thus generates /h/ (= the preaspiration), whereupon Höskuldur Thráinsson's rule (34) deaspirates the right /k^h/ by moving the feature [+spread glottis] (= the aspiration) of that segment to the newly generated /h/. (But it can also be that (28) and (34) apply in the opposite order; in that case the detail is a bit different, but the result is the same.)

Using the "free-ride" principle they have extended this treatment even to words in which there is no alternation between the presence and absence of preaspiration, such as epli "apple". Its putative derivation is, simplified,

$$ep\overset{h}{}lI$$

preaspiration	ehp$\overset{h}{}$lI
deaspiration	ehḅlI
	epli

The postulation of intra-word aspirated plosives in the phonological representations seems possible for harðmæli, where, say, the k of jökull is actually pronounced as aspirated in the non-contracted cases. In linmæli such treatment, being a case of absolute neutralisation (Kiparsky 1968), is open to doubt. It is a purpose of the present paper to find a solution which would make it unnecessary to posit, in linmæli, underlying aspirated plosives in words such as jökull.

3.   My solution presupposes the division of all instances of preaspiration into lexicalised and non-lexicalised cases. In uninflected words, all cases of preaspiration are presupposed lexicalised, e.g. ekki $\left[\,-h\overset{\circ}{g}_j-\,\right]$ "not". In inflected words, the criterion is the distribution of the preaspiration in inflectional paradigms: if the preaspiration occurs in all the forms of a paradigm, it is lexicalised; otherwise it is non-lexicalised.

Examples. The word pípa "pipe" is pronounced with a preaspirated p in the genitive plural, pípna [-hḅn-] , and without any preaspiration in the remaining forms of its inflectional paradigm. In accordance with the criterion formulated above, the preaspiration of pípna is not lexicalised. On the other hand, the preaspiration is pronounced in all the forms of brattur $\left[\,-hḍ-\,\right]$ "steep", and is therefore lexicalised.

The criterion does not work in this simple fashion with the words whose inflectional paradigms display suppletion. The word-forms pertaining to such a paradigm must first be grouped into subsets whose members do not contract the relation of suppletion with one another, and then the criterion considers only one such subset at a time. Illustration: consider vatn "water", gen. sg. vatns [väs] . It can be assumed that the form [väs] and the remaining forms of vatn stand in a suppletive relation to each other, synchronically speaking, especially since there is also a regular gen. sg. vatns [vahḍns] and the alternation between [vahḍns] and [väs] is not productive. Given this assumption, the criterion considers the subset of the word-forms of vatn which does not include [väs] , and proclaims that their preaspiration is lexicalised, seeing that the preaspiration is pronounced before tn in all the forms of the subset.

The lexicalised instances of preaspiration are represented in the lexical representations of the respective lexical items, e.g. the lexical representation of the root of vatn is /vahdn/. Non-lexicalised preaspiration is produced by the preaspiration rule.

4.   In the discussion of the preaspiration rule it is useful to divide the subject-matter into two dealing with the preaspiration before p,t,k, + l,n, and with the preaspiration in pp, tt, kk. (All instances of preaspiration before p, t, k + m and before tk known to me are lexicalised and thus outside the domain of the preaspiration rule.)

4.1.   The preaspiration before p, t, k + l, n.

4.1.1. The situation in hardmæli has already been discussed and the environment of the rule can be informally formulated as follows:

$$V \underline{\hspace{1cm}} [+\text{aspirated}]\begin{Bmatrix} l \\ n \end{Bmatrix}$$

I.e. preaspiration is generated between a vowel and an aspirated segment immediately followed by /l, n/.[4] (Only plosives can be aspirated in Icelandic.)

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4   In the above formulation of the structural description of the hardmæli preaspiration rule, a vowel is mentioned. As pointed out above, this is necessary because preaspiration is always immediately preceded by a vowel in pronunciation, and never by a consonant or anything at all. Let me mention, in passing, that these facts would follow automatically if the preaspiration were conceived (with Garnes 1976) as partial devoicing of the vowel that precedes the preaspiration. In that case the structural change of the rule would mention the vowel (the one to be partially devoiced), and there would be no need to include any vowel in the structural description of the rule. E.g. the hardmæli version of the preaspiration rule would then be

$$V \rightarrow \check{V}h \ / \ \underline{\hspace{1cm}} [+\text{aspirated}]\begin{Bmatrix} l \\ n \end{Bmatrix}$$

I.e. any vowel is partially devoiced before an aspirated plosive immediately followed by /l,n/. - Mutatis mutandis, this is also valid for linmæli.

Examples: jökull "glacier", nom.pl. jöklar; depill "point", nom.pl. deplar;
fetill "strap", nom. pl. fetlar; aukinn "augmented", nom. pl.m. auknir;
étinn "eaten", nom.pl. m. étnir; bátur "boat", definite dat sg. bátnum;
rjúpa "grouse", gen. pl. rjúpna; mínúta "minute", gen. pl. mínútna. –
These examples are not all equally reliable. Those displaying preaspiration
in the contracted case forms (i.e. the first five of the list) are best. In
the examples such as bátnum, rjúpna, and mínútna, the preaspiration can
be a part of the ending, an infix that accompanies the desinence. Such two-
-part endings are commonplace in modern Icelandic; e.g. the gen. pl. sælla
of sæll "happy, blessed" contains the desinence -a and the infix /d/.
(The rule for the formation of the forms bátnum, rjúpna etc. would be: the
desinences /nYm/ and /na/ are preceded by the infix /h/ if the root ends
(a) in hardmæli, in an underlying vowel + aspirated plosive, (b) in linmæli,
in an underlying long or unstressed vowel + plosive. The unstressed vowel
must be mentioned because of cases such as mínútna, see section 4.1.2.2
below. For underlying long vowels see Appendix A. The place of the in-
fix is always immediately before the last consonant of the root.) However,
this has no bearing upon the formulation of the structural description of
the rule: it is the same whether the examples such as bátnum, rjúpna,mí-
nútna are included or not.

Neither the hardmæli nor the linmæli version of the structural description
of the preaspiration rule can be

$$V \underline{\quad\quad} [-\text{continuant}] \left\{ \begin{matrix} 1 \\ n \end{matrix} \right\}$$

(i.e. preaspiration is generated between a vowel and a plosive immediately
followed by /l,n/) because then the rule has a great many systematic exce-
ptions: the language is full of words containing /b d g̊/ + /l n/ not preceded
by preaspiration. Examples: afl [-b̥l] "power", villa [-d̥l-] "mistake",
tagl [-g̊l] "tail", höfn [-b̥n] "harbour", einn [-d̥n] "one", rigning [-g̊n-]
"rain".

The hardmæli preaspiration rule must be followed by a deaspiration rule
in the ordering. The deaspiration rule deaspirates plosives preceded by
preaspiration. Informally,

$$[+\text{aspirated}] \rightarrow [-\text{aspirated}] \ / \ h\underline{\quad\quad} \ \text{in hardmæli}$$

I.e. any aspirated segment loses its aspiration if immediately preceded by
preaspiration.

Björn Guðfinnsson 1946 mentions a sporadical substandard pronunciation (most likely to occur in East Iceland – Jón Helgason viva voce 1978) in which preaspirated plosives can have aspiration. Example: ekki [ehġ$_j$^{h}I] "not". For the intersection of such speakers and of harðmæli speakers the structural description of the deaspiration rule must be narrowed to h___C, i.e. the deaspiration takes place between preaspiration and consonant only. This assures deaspiration in, say, jöklar, but leaves the aspiration intact in, say, ekki.[5]

The harðmæli deaspiration rule must also apply immediately before /s/. Examples: gen. sg. báts [–ḍs] of bátur [–t^h–]"boat", skips [–ḅs] of skip [–p^h] "ship", leiks [–ġs] of leikur [–k^h–] "play".

4.1.2.1. As to the preaspiration rule in linmæli, we will start with the following temporary formulation of its structural description:

$$V\_\_\_X\begin{Bmatrix}1\\n\end{Bmatrix}$$

where X is difficult to determine. As already mentioned, X cannot stand for the aspirated plosives, for linmæli lacks such segments outside word-initial position in simplex words. For instance, both bátur and bát are pronounced with the unaspirated [ḍ]. On the other hand, if X stands for /ḅ ḍ ġ/ tout court, the rule has many systematic exceptions, as shown above in section 4.1.1. I propose the following solution: let the structural description of the linmæli preaspiration rule be

$$V \_\_\_\_ [- \text{continuant}] \begin{Bmatrix}1\\n\end{Bmatrix}$$

i.e. (the rule applies) between a vowel and a plosive + /l n/, where the plosive is not specified as aspirated. Let this formulation be accompanied by the following complicated condition on the application of the rule: in the inflectional paradigm of the word-form to which the rule is to apply (recall that the preaspiration rule applies to forms of inflected words only) there must be at least one form containing a long vowel immediately followed by a plosive (where the vowel and the plosive are those mentioned in the structural description of the preaspiration rule).

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5   The existence of the preaspiration–cum–aspiration pronunciation corroborates Höskuldur Thráinsson's implied hypothesis that the preaspiration and the deaspiration rules are two mutually independent processes. On the other hand, I do not know how Höskuldur Thráinsson's deaspiration rule would handle deaspiration of plosives before s, for the rule, as it is now formulated, would move the feature [+spread glottis] from the /s/ to the immediately preceding plosive, thus making that segment aspirated.

Examples. (1) Nom.pl.m. étnir of étinn "eaten". The inflectional paradigm
of the word contains forms such as étinn, where a long vowel (é) is imme-
diately followed by a plosive. Thus both the condition and the structural
description of the preaspiration rule are fulfilled for étnir, to which the
rule consequently applies. The pronunciation is [jehḏnIr̥].

(2) Nom. pl.m. höggnir of högg(v)inn "hewn". In the inflectional
paradigm of this word there are no forms containing a long vowel. Thus
the condition of the preaspiration rule is not fulfilled, and the rule conse-
quently does not apply to höggnir. The pronunciation is [högnIr̥].

(3) Nom.pl.m. lagnir of laginn "skilful". While forms containing a
long vowel do occur in the inflectional paradigm of this word, e.g. in
laginn, that long vowel is never followed by a plosive. Thus the condition
of the preaspiration rule is not fulfilled, and the rule does consequently
not apply to lagnir. The pronunciation is [laiġnIr̥] .

(4) Nom. sg. m. einn "one". The same situation as with (3) above.
The preaspiration rule does not apply to einn. Its pronunciation is [eiḏn].

At which stage in the phonological derivation must the condition of the lin-
mæli preaspiration rule be fulfilled? The answer is, the earliest after the
operation of the quantity rule. As the quantity rule is one of the latest
rules in the sequence of rules that have the simplex word as their domain,
it is least abstract to assume that the condition of the preaspiration rule
has to be fulfilled in the surface structure (i.e. on the systematic phonetic
level). For more on the quantity rule see Appendix A.

Why should the condition of the preaspiration rule be fulfilled only after
the operation of the quantity rule? Because before the operation of the qua-
ntity rule, some of the representations that the condition of the preaspira-
tion rule should be capable of treating differently are not yet so different
from each other that the condition of the preaspiration rule would be able
to see the difference between them. Example: the linmæli quantity rule pre-
supposes that the phonological representations of the nom.sg. bátur "boat",
of the definite dat. sg. bátnum, and of the gen. pl. einna (of einn | "one")
are /ḅaūd̟+Yr/, /ḅaūd̟+nYm/, and /eīd̟n+a/, respectively, all with a long
root vowel followed by a plosive, before the application of the quantity ru-
le. (For einna cf. also Appendix B.) At that stage, the phonological repre-
sentation of bátnum and einna fulfil the structural description and the condi-
tion of the preaspiration rule; if the rule applied to them at that stage, it
would generate preaspiration in both, not only in bátnum. The relevant fe-
atures of the three representations change only after the operation of the
linmæli quantity rule: the root vowels of bátnum and einna are shortened,

the root vowel of bátur remains long. From that moment on long and short
root vowels alternate in the inflectional paradigm of bátur, and the alterna-
ting vowels are immediately followed by a plosive. There is also alternati-
on between long and short root vowels in the inflectional paradigm of einn,
only its long vowels are never immediately followed by a plosive. The in-
flectional paradigm of bátur now fulfils the condition of the preaspiration
rule, and the case form bátnum satisfies the structural description of the
rule. Consequently the rule applies to bátnum and generates preaspiration
before its tn. On the other hand, no form of einn fulfils the condition of the
preaspiration rule, and consequently the rule does not apply in the paradigm
of einn. - This example shows that the validity of the condition of the pre-
aspiration rule has to be limited to those stages in the derivations following
the operation of the   linmæli quantity rule. Here it will be assumed that
the condition simply scrutinises surface phonetic representations; this is
the least abstract assumption that can be made.

Informally speaking, any condition upon rule R that makes the application
of R to a string dependent upon the situation in the derivation of at least
one other string is called a Transderivational Constraint (TDC). Such con-
straints have been postulated for several languages, in all components of
the grammar, including its phonological component. However, no such con-
straints have so far been suggested for Icelandic, as far as I know. If my
above description is correct, even the phonology of the Icelandic linmæli
contains at least one TDC. TDC's greatly increase the power of gram-
mars. (True enough, the power of the TDC discussed here is somewhat
diminished by the circumstance that its scope is limited to word-forms
in single inflectional paradigms.) As there is not much use for such addi-
tional power in most areas of grammar, it would be desirable to abolish
TDC's. However, as alternative analyses of the preaspiration in linmæli,
show, our TDC can only be eliminated at the cost of increasing the abst-
ractness of the description beyond the degree of abstractness that can at
present be independently motivated.

4.1.2.2. My above description of Icelandic preaspiration before plosive +
l, n has only taken into account the word-forms in which the preaspirati-
on is immediately preceded by a stressed vowel. However, the preaspira-
tion can also follow unstressed vowels, e.g. ballet [-ehd̥] "ballet", fagott
[-ohd̥] "bassoon". We shall now look at the implications of my description
for the preaspiration in unstressed syllables.

Even in unstressed syllables it is necessary to distinguish between lexica-
lised and non-lexicalised preaspiration. Two lexicalised cases have been
cited in the preceding paragraph. Examples of non-lexicalised preaspirati-
on include the forms in the right column of the following list:

mínúta "minute"	gen. pl. mínútna [-hd̦n-]
frímínútur "school break"	frímínútna [-hd̦n-]
obláta "wafer"	oblátna [-hd̦n-]
spútnik "sputnik"	definite dat. sg. spútniknum [-hg̊n-]
mammút(ur) "mammoth"	mammútnum [-hd̦n-]
sjakket "morning coat"	sjakketnum [-hd̦n-]
kandídat "candidate"	kandídatnum [-hd̦n-][6]

In all these cases the preaspiration accompanies a root-final plosive and a desinence-initial n. In harðmæli the situation is straightforward. The root-final plosive is aspirated in some forms of each inflectional paradigm in question. Parallel to the procedure used with the preaspiration in stressed syllables, an aspirated root-final plosive can be posited in the underlying representations of the forms in which preaspiration is expected, e.g. in /mĩnuth+na/, whereupon the harðmæli preaspiration rule generates preaspiration, and the deaspiration rule eliminates the aspiration of the root-final plosive. The result is [mi:nuhd̦na] , which is as it should be. The situation in linmæli is complicated. The condition of the linmæli preaspiration rule is not satisfied in those cases in which the vowels of unstressed root-final syllables are definitely short in all the forms of the inflectional paradigm in question, e.g. in the forms of mínúta, obláta, spútnik, mammút(ur), sjakket. Thus my linmæli preaspiration rule predicts that there should be no preaspiration in the root-final syllables of mínútna, oblátna, spútniknum, mammútnum, sjakketnum. As a matter of fact, I have found some native speakers of linmæli who do not pronounce preaspiration in the root-final syllables of all or some of these case forms, but I cannot exclude the possibility that those speakers did pronounce the preaspiration, but I did not hear it because it was weak, being in an unstressed syllable. (One speaker volunteered the information that he does not pronounce preaspiration in the root-final syllable of sjakketnum and spútniknum, whereas he pronounces it in the root-final syllable of mínútna, oblátna, mammútnum. The lack of preaspiration in the root-final syllable of sjakketnum and spútniknum can be ascribed, I think, to the dissimilatory influence of the concomitant preaspiration in the stressed syllable.) However, most of my informants did pronounce the preaspiration in the root-final syllables of the word-forms enumerated above. I shall come back to this question below.

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6   For some speakers, the definite dative singular of spútnik, mammút(ur) and sjakket ends in -inum; the -inum forms are useless for the discussion of the preaspiration rule.

The structural description and the condition of the preaspiration rule seem
to be met in forms such as frímínútna, kandídatnum, where there is possi-
bility for preaspiration in the third syllable. The third syllable, especially
if followed by at least one more syllable, usually carries a rhythmical
stress in simplex words and often also in two-constituent compound words
whose leftmost constituent is monosyllabic. If the syllable carrying a rhy-
thmical stress is open, its vowel is of longer duration than the vowels of
non-initial syllables not bearing a rhythmical stress. It is possible that na-
tive speakers of Icelandic equate such non-short vowels with phonologically
long vowels. In that event forms such as frímínútur, with a rhythmical st-
ress upon ú, and kandídat, with a rhythmical stress upon the second a, en-
sure that the condition of the preaspiration rule is satisfied, and conseque-
ntly there is preaspiration in frímínútna and kandídatnum. As far as I know,
everybody pronounces preaspiration in such cases.

The fact that preaspiration is pronounced, against expectation, in the root-
final syllable of mínútna, oblátna, spútniknum, sjakketnum, mammútnum in
linmæli does not constitute an argument against my linmæli preaspiration ru-
le, for the presence of preaspiration in those cases can be justified in the
following ways (and the justification can be extended to the unproblematical
cases frímínútna, kandídatnum):

  (1) Case forms such as mínútna, spútniknum are parallel to rjúpna,
bátnum, discussed in section 4.1.1 above, as far as the status of the
preaspiration in their root-final syllables is concerned: the preaspiration
need here not be generated by the preaspiration rule, but can be part of
the ending (which then is, infix /h/ + n-initial desinence.) If the vacillati-
on between [mi:nuḍna] and [mi:nuhḍna] , which I believe to have obser-
ved, is real, it can be explained as involving an alternation between the
more general desinence –na not accompanied by the infix /h/ and the more
specific desinence –na preceded by the infix /h/.

  (2) Literacy is extremely high in Iceland, therefore the influence of
the spelling upon the pronunciation cannot be discounted. Faced with the
question as to whether preaspiration is pronounced in mínútna, informants
maybe reflect on the fact that the word is spelled with tn, and that in most
words tn is preceded by preaspiration in the pronunciation; whereupon they
conclude that preaspiration is pronounced in mínútna as well.

4.1.2.3. There is also reason to discuss the loanwords túba "tube" and
fúga "fugue". How would their genitive plural case forms be pronounced
if they ended in –na? Since no form of these words contains an aspirated
root-final plosive, the harðmæli preaspiration rule predicts the absence of
preaspiration in the hypothetical na-forms. In linmæli, however, the struc-
tural description and the condition of the preaspiration rule are satisfied,

and we expect the hypothetical pronunciation [tʰuhb̥na] and [fuhg̊na].
Since the genitive plural of túba and fúga do not end in -na, the two predic-
tions are difficult to verify, especially because the opinions of the native
speakers on the matter may also be influenced by the spelling: the graphe-
me sequences bn and gn are otherwise not pronounced with preaspiration.

4.1.2.4. Words such as líklega "probably", vitlaus "mad, foolish", kaup-
maður "merchant", compound words in origin, are now often pronounced
with preaspiration before kl, tl, pm, respectively. In harðmæli, they ori-
ginally contained aspirated plosives followed by l or m, and thus met the
structural description of the harðmæli preaspiration rule, which therefore
applied to these words. In linmæli, they contained long vowels followed by
plosives, and thus met the structural description and the condition of the
linmæli preaspiration rule, which therefore likewise applied to these words.
– Incidentally, examples such as kaupmaður and átmatur "dry food" prove
that the structural description of the preaspiration rule had to mention m
beside l, n at the time that the preaspiration was introduced into these wo-
rds. – Pronunciations of, say, kaupmaður with long au not followed by prea-
spiration, and with short au followed by preaspiration, reflect lexical dou-
blets.

4.1.2.5. The compound word óskap-legur "enormous, monstrous", ágæt-
lega "excellently", and some others, are sometimes, in dialect, pronoun-
ced with preaspiration before pl or tl. From the standpoint of the linmæli
preaspiration rule it has to be assumed that the vowels which immediately
precede the preaspiration in these words must have been (treated as) long
at the time when the linmæli preaspiration rule applied to these lexical it-
ems. A word such as ágætlega has now two lexical entries, one without
and one with preaspiration.

4.2.1. Preaspiration in pp, tt, kk(j). The grapheme sequences pp, tt,
kk(j) normally stand for preaspiration + the corresponding short plosive.
For examples see section 1 above. Instances of preaspiration in pp and
kk(j) are all lexicalised, and so are many cases of preaspiration in tt, e.
g. brattur "steep". The remaining cases of preaspiration in tt are not lexi-
calised, and the question now is whether that preaspiration is governed by
a phonological rule or has some other source. To answer this, there fol-
lows a list of the word forms in which the preaspiration in tt is not lexi-
calised. Such preaspiration occurs in

    (a) the preterit and past participle of weak verbs other than kalla
verbs whose present stem ends, in linmæli, in underlying long vowel + /ð/;
in harðmæli, in /tʰ/. E.g. fletja "split, cut open", pret. flatti, pp. flattur.

(Present stem: linmæli /flēḍ/; harðmæli /fletʰ/ with underlying vowel quantity unknown.)

(b) the "long" imperative singular of verbs other than <u>kalla</u> verbs whose present stem ends as sub (a). E.g. bíta "bite", imp. sg. bíttu. (Present stem: linmæli /bị̄ḍ/; harðmæli /bịtʰ/, with underlying vowel quantity unknown.)

(In the language of the past centuries, and possibly even in modern substandard speech, preaspiration occasionally occurs also in the "long" imperative singular of verbs other than <u>kalla</u> verbs whose present stem ends in /ð/. E.g. <u>ríða</u> "ride", standard imp. sg. ríddu, without preaspiration; in substandard archaic (?) language also ríttu, with preaspiration. See Noreen 1923:181, Björn K. Þórólfsson 1925:111, Bandle 1956:117.[7]

(c) the strong nominative/accusative singular neuter of adjectives whose stems end in a vowel + /ð/ or dental plosive. E.g. glaður "glad", nom./acc. sg. n. glatt; erfiður "difficult", nom./acc. sg.n. erfitt; <u>hvítur</u> "white", nom./acc. sg. n. hvítt; gladdur "gladdened", nom./acc. sg.n. glatt. Exception: the nominative/accusative singular neuter of adjectives (including participles) in -að- and of past participles in /Vð/, e.g. kallað (*kallatt) of kallaður "called"; gáfað (*gáfatt) of gáfaður "talented"; spáð (*spátt) of spáður "prophesied", as against the non-participial adjective gáður "sober", nom./acc. sg. n. gátt.

(d) the strong nominative/accusative singular neuter of adjectives

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7   Since no extensive list of such forms has been published, I have culled the following examples from Jón Helgason's multi-volume edition of the Icelandic folk-ballads: bíttu (of bíða) 1962a: 26, 96, 109, 113; 1962b: 68; 1962c: 124, 226; 1963: 70, 258; 1965: 142; hlýttu (of hlýða) 1962b: 170; klættu (of klæða) 1962a: 112, 150; 1962b: 105; 1962c: 134, 228; ráttu (of ráða) 1962a: 190-1; 1962b: 105; 1962c: 156, 221; 1963: 215, 255-6; 1965: 78-9, 141; 1968: 9, 24, 26; ríttu (of ríða) 1962a: 48, 52; 1962b: 3, 132, 171, 205, 216; 1962c: 212, 255; 1963: 74, 125, 173, 245; 1970: 15, 42; skríttu (of skríða) 1962a: 131; 1962c: 241; 1963: 207-8; sníttu (of sníða) 1962a: 193; 1962c: 252; 1963:236.

whose stems end in a stressed vowel. E.g. blár "dark, blue", nom./acc. sg. n. blátt. [8]

In all these cases it is possible to describe the preaspiration as a part of the ending:

Form	Ending
pret. flatti	infix /h/ + person markers /+I, +Ir, .../
pp. flattur	infix /h/ + case markers
imp. bíttu	infix /h/ + desinence /+Y/
(imp. ríttu of ríða	
	desinence /hd̦Y/ replaces the root-final /ð/)
n. glatt of glaður	desinence /hd̦/ replaces the root-final /ð/
n. erfitt	idem
n. hvítt	infix /h/
n. glatt of gladdur	infix /h/
n. blátt	desinence /+hd̦/ [9]

The point of the list is that there are no instances of non-lexicalised preaspiration in tt which cannot be accounted for by morphological rules. In other words, there are no certain examples of preaspiration in tt which ought to be generated by a phonological rule. Whoever wishes to posit an abstract solution featuring a phonological rule, has to disprove this concrete morphological alternative first.

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8   I consider the following nominative/accusative singular neuter forms in -tt exceptional, and have therefore not included them in the above list - otherwise intended to be exhaustive - of cases containing non-lexicalised preaspiration in tt: satt of sannur "true", eitt of einn "one", hitt of hinn "that", mitt of minn "my", þitt of þinn "thy", sitt of sinn "his etc.".

9   In harðmæli, the aspiration of the underlying stem-final dental of the types flatti, flattur, bíttu, hvítt is deaspirated by a deaspiration rule, on which see section 4.1.1 above. - It is an open question whether glatt "gladdened" is to be derived from the verbal stem glað- (this shape of the verbal stem not realised anywhere on the systematic phonetic level!) in the same way as glatt "glad" is derived from the adjectival root glað- , or from the past participle stem gladd- in the way indicated in the table above. In the latter case there is a complication in the area using the Northern Icelandic quantity system: the length of dd must be obliterated after the insertion of the preaspiration before dd, and for this a special rule is needed.

The grammaticalisation of the phonological rule which once upon a time generated preaspiration in   tt,   into a set of morphological rules must be due to the inability of the learners of the language to construct, on the basis of the systematic phonetic forms, underlying representations sufficiently alike in the relevant respect so that one phonological rule could generate the preaspiration in them. An example from linmæli: since the root of hvítur "white" ends in [ḍ] , and the strong nominative/accusative singular neuter ending of adjectives often is [ḍ] , the learners of the language can only be led to construct the phonological representation   hví/ḍ+ḍ/, which would most likely yield the unacceptable hv [íḍ] hvídd on the phonetic level. Therefore a new preaspiration-triggering mechanism was sought, and found in the morphological conditioning.

The "normal" description of these facts in generative phonology would posit phonological representations in which the forms of the list would end in an ending beginning with, or consisting of, a dental plosive. (In the published descriptions the dental plosive is $/+t^h/$.) For instance, I assume that hvítt would be underlyingly $/k^hvit^h+t^h/$, and several phonological rules, the preaspiration rule among them, would convert that representation into [k^h- vihḍ] . This solution does "work", but it is quite abstract. Its abstract character is especially clear in linmæli, where (a) the stem of hvítur ends in [ḍ] in most forms of the word, so that there is no motivation for positing a root-final $/t^h/$, and (b) the ending of the nominative/accusative singular neuter is NEVER [t^h] (but in some cases [ḍ]), so that there is no compelling motivation for positing the desinence $/+t^h/$. The harðmæli phonological representation containing $/t^h+t^h/$ is less abstract than the corresponding linmæli phonological representation, seeing that the harðmæli hvítur is pronounced with an aspirated dental plosive stem-finally in most forms of the word, and seeing that harðmæli actually possesses the ending [t^h] , e. g. in kent of kendur "touched with drink". Still, the harðmæli $/t^h+t^h/$ is quite far from the phonetic [hḍ]. With abstract solutions it is not enough to show that they work, but it is necessary to adduce compelling arguments for them. In the absence of such arguments a less abstract solution, if available, is to be preferred. To say that a given abstract solution is better than a given less abstract solution, because the abstract solution can express some generalisation that the less abstract solution does not express, or because the abstract solution contains a lower-level generalisation than the less abstract solution, is not a compelling argument in favour of the abstract solution unless it can be shown that the generalisation in question is significant (linguistically possible) and/or has to be stated on the lower level.

A cross-linguistic investigation shows that there normally arise complications in the inflected forms whose predesinential part ends in a consonant and whose ending begins with a consonant very similar to, or identical with, the consonant with which the predesinential part of the word ends.

(1) In the simplest case the two consonants under discussion monophthongise into one long consonant identical with, or very similar to, at least one of the two underlying consonants. Such was the case in the Old Icelandic gen. sg. íss "ice" from /ís+s /. The rule that performs this monophthongisation into a long consonant is probably a language universal. (If so, underlying representations such as /ís+s/ cannot be posited in languages such as the modern linmæli, which do not have long consonants.) If this course is not followed, there are three other typical avenues open:

(2) The (initial) consonant of the ending is simply omitted. Such was frequently the case of the normal English plural and Saxon Genitive endings after hissing and hushing obstruents in Middle English, in the spoken dialect even today: Brunner 1962: 16, 18, Wyld 1927:241, Jespersen 1967:175.

(3) The distance between the final consonant of the predesinential part and the initial consonant of the ending is augmented through the use of an intermediary vowel. Cf. the normal English plural, Saxon Genitive, and third person singular ending [Iz] after sibilants. Another case in point is the dative singular of Icelandic strong masculine nouns whose roots end in n. Many such nouns take no case marker in the dative singular, e.g. tón of tónn "tone", barón of barón "baron". However, if the postpositive definite article is added to the dative, its shape is not –num as expected after the zero ending (as in dat. sg. dal – dalnum, vog – vognum), but invariably – inum: tóninum, baróninum (Kress 1963:69). The i of –inum prevents the collision between the root-final and the article-initial n's.

(4) Some unexpected way of marking the form in question is chosen. Icelandic examples: in linmæli, the gen. sg. íss of ís "ice" has no ending; the case form is marked by the shortness of the vowel: [ĭs] . The nom./ acc. sg. n. vilt of vildur "intimate" has likewise no ending; the form is indicated by the voicelessness of the l: [vild]. (The l is voiced in the remaining forms of the word.)

It is only sometimes possible to predict which of the four paths will be followed in any given case. Not even abstract solutions can always solve this problem. How, for instance, could an abstract solution predict spáð vs. gátt?

Of the four avenues just enumerated, the first (long consonant) and the third (insertion of vowel) cannot be illustrated in modern Icelandic with the help of the words containing non-lexicalised tt. The omission of the consonant of the ending can be seen in spáð, kallað (also in the pret. gift-i, hitt-i and in the supine gift, hitt of gifta "marry", hitta "meet", and other similar verbs).

Unexpected ways of realising tt can be seen in flatti, flattur, bíttu, (ríttu),
glatt of gladur and gladdur, erfitt, hvítt, blátt.

The number of postulated endings should probably be kept to a minimum.
However, this principle should not be invoked without argumentation at the
expense of the concreteness of the solutions proposed.

4.2.2. In the recent (?) history of the language, preaspiration occasional-
ly arose, especially in East Iceland, also in compound words such as hlut-
taka "participation, share", mót-tak "saddle strap". These examples, taken
from Jón Ófeigsson in Blöndal 1920-24, show that there used to be a rule
in the language which generated preaspiration in tt. To be sure, hluttaka
and móttak, when treated as compounds, are now pronounced with a long
vowel in the initial syllable followed by a short t, e.g. [mōut^{h}aġ]. At
the time that the preaspiration was generated by rule in tt, the pronuncia-
tion of words such as hluttaka and móttak must still have contained the et-
ymologically justified long t.

4.2.3. Haugen 1958 has drawn attention to the fact that English words such
as got, met are sometimes pronounced [ġohd, mehd] (transcription mi-
ne), i.e. with preaspiration, by Icelanders speaking English with an Icelan-
dic accent. This fact has been interpreted to show that there is a rule ge-
nerating preaspiration in tt in the language. It can be protested that foreig-
nisms do not necessarily give direct evidence about the phonological rules
of the language. Take got [ġohd] as an example: just as the English t is
replaced by [hd], the English voiced g is substituted for by the
voiceless [ġ]. Yet no one has so far proposed that Icelandic has
a phonological rule changing /g/ to /ġ/ in word-initial position:
there is no internal evidence for such a rule. By the same token one
cannot be sure, on the basis of examples such as got, met, that there is a
rule generating preaspiration in tt in Icelandic. The most one can say is
that these examples are compatible with a solution which posits a phonolo-
gical rule generating preaspiration in tt; but the examples neither confirm
nor disconfirm the solution. Neither do these examples disconfirm the so-
lutions whose phonological rules are not able to generate preaspiration in
got, met.

The same point can be made with the Japanese word doresu, borrowed from
English dress. There are no phonological rules in the grammar of Japanese
that would dictate the choice of the epenthetic o, rather than, say a or e,
in the first syllable of doresu. One can assume that o was preferred to e,
a because it is the vocalic segment the most similar to the usual epenthetic
vowel u, which is not used in the first syllable of doresu, because du
would be pronounced [dzu], so that the resulting phonological structure wo-
uld not be considered a felicitous imitation of the English dress. The for-
ces regulating the nativisation of vocabulary are not limited to those expre-

ssed in the phonological rules of the receiving language. While the phono-
logical structures that arise in the process of nativisation must be such th-
at the phonological component of the receiving language does not reject them,
that component does not alone decide what shape the naturalised lexical i-
tems will take on the systematic phonetic level. (I thank Wayles Browne
for his help with the Japanese example.However, I am alone responsible
for the interpretation of the facts.)

5. As is well known, there are relatively large transitional zones bet-
ween hardmæli and linmæli proper (Björn Guðfinnsson 1946). The question
arises as to which of the two proposed preaspiration rules has been incor-
porated into the grammar of the speakers of the transitional zones. This
interesting question cannot be solved in the present paper. While it is not
impossible that the speakers of the transitional zones master both versions
of the preaspiration rule, it seems more likely that they make use of that
of the two versions which can generate both the linmæli and the hardmæli
forms. The linmæli preaspiration rule has in fact this property, whereas
the hardmæli version does not have it (because it mentions word–internal
aspirated plosives – a category of segments practically non–existent in non-
initial position in linmæli). It is therefore likely that the speakers of the
transitional zones utilize the linmæli preaspiration rule. (This would also
be in keeping with the fact that the linmæli pronunciation is the prevailing
and the spreading pronunciation in Iceland.) If this is true, the issue revo-
lves around the language universals that help native learners of the langua-
ge choose between the hardmæli and the linmæli versions of the preaspirati-
on rule. One possibility – easy to state, hard to prove – is that the lear-
ners, ceteris paribus, choose the least abstract of the available rules. This
universal would dictate the choice of the linmæli version of the preaspirati-
on rule, not only in the transitional zones, but also in the hardmæli terri-
tory proper. In that case the whole of Iceland uses only one version of
the preaspiration rule.

6. Appendix A: Quantity in modern Icelandic. The phonetic and phonolo-
gical aspects of Icelandic quantity have recently been treated in Orešnik &
Pétursson 1977. There are two quantity systems in modern Icelandic, a
Northern Icelandic and a Southern Icelandic one. The geographical boundary
between the two has not yet been determined (Magnús Pétursson 1978), but
the working hypothesis is that most of the linmæli territory uses Southern
Icelandic quantity, and most of the hardmæli territory utilises Northern I-
celandic quantity.

Northern Icelandic quantity is described in the handbooks. Its characteristic
trait is this: in a segment sequence consisting of a stressed vowel and an
intervocalic consonant, either the vowel is long and the consonant short,
or vice versa.

Southern Icelandic quantity is not mentioned in the handbooks. It distinguis-
hes short and long vowels, while the consonants are short, with the excep-
tion of r, which can be short or long. (The consonants are somewhat longer
after short vowels than after long vowels, but the difference is perceptually
negligible, except in the case of the r. [10]) An example: nom. sg. ís "ice"
and its gen. sg. íss both contain a short consonant in Southern Icelandic,
whereas the vowel is long in the nominative and short in the genitive: [īs,
ĭs].

The hypothesis that there are two quantity systems in modern Icelandic has
only been known after Magnús Pétursson had published his phonetic investi-
gations of Icelandic quantity. These investigations have been corroborated
by Garnes' (1976), although the latter's research has been limited to the
speech of subjects from Reykjavík.

The remainder of this Appendix will discuss Southern Icelandic quantity
only, partly because acquaintance with this system will facilitate the under-
standing of the main body of the present paper, and partly because I can
now offer a somewhat improved version of the description of Southern Ice-
landic quantity system as presented in Orešnik & Pétursson 1977.

As is well known, in Icelandic the opposition between short and long quanti-
ty is only possible in syllables that bear (at least some) stress. The dis-
cussion is here limited to stressed vowels in initial syllables of simplex
words.

It is necessary to distinguish between lexicalised and non-lexicalised quan-
tity along the same lines as between lexicalised and non-lexicalised preaspi-
ration (see section 3 above). Examples of lexicalised quantity: mjög "very"
(long ö), villa "mistake" (short i). Examples of non-lexicalised quantity:
dalur "valley" vs. dals (long vs. short a), gefinn "given" vs. gefnum (long
vs. short e).

The quantity rule has nothing to do with the lexicalised quantity, except
that the rule must be formulated so as not to affect such quantity. On the
other hand, the quantity rule regulates the non-lexicalised quantity. The ba-
sic hypothesis upon which the formulation of the rule is based is that all
underlying non-lexicalised stressed vowels are long, and that the task of
the quantity rule is to shorten those long vowels in certain contexts.

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10   Another language with long and short r, and otherwise with short
      consonants only, is Spanish (Magnús Pétursson 1978).

An indication that the underlying quantity of stressed vowels is long is the statistical situation in the inflectional paradigms in which long and short vowels alternate on the systematic phonetic level. In the nominal paradigms the stressed vowels are prevailingly long. In the verbal paradigms, the long and the short vowels are approximately equally divided. So on the whole, the long stressed vowels predominate.

That the underlying quantity of stressed vowels cannot be short, follows from examples such as hygginn "clever" and aukinn "augmented". If the underlying vowel quantity were short, the underlying representations of these words would be /hĭgĭn/ (lexicalised quantity) and /ŏĭgĭn/ (non-lexicalised quantity), respectively. The two representations contain no clue that would help the quantity rule determine which of the two stressed vowels is to be lengthened. There are of course many such examples.

The underlying quantity cannot be left unmarked, either. This can again be illustrated with the example pair hygginn and aukinn. If the underlying quantity of the stressed vowels of these words were not marked, the underlying representations would be /hIgIn/ and /oIgIn/, with the stressed /I/ and /oI/ unmarked for quantity. Consequently the representations would contain no clue that would tell the quantity rule which stressed vowel to lengthen and which to shorten.

If the underlying quantity of stressed vowels is neither short nor unmarked in the non-lexicalised cases, it must be either long, or long in some cases and short in others. The latter alternative has never been seriously investigated, although it is theoretically possible. Such an investigation will not be undertaken in the present paper. Orešnik & Pétursson 1977 and the present paper are based on the simpler hypothesis that the underlying quantity of stressed vowels is long.

The quantity rule shortens underlying long vowels in four types of environments:

(1) before continuant + consonant. Example: laust of laus "loose". Exception: there is no shortening before /sj/, /sr/, maybe also /sv/; e.g. lausra of laus.

(2) before plosive + /l,n/. Example: gefnir [-bn-] of gefinn "given", einn [eidn] "one".

(3) before long r. Example: störra of stór "big, great".

(4) in the following morphologically defined contexts:

(a) in the genitive singular of monosyllabic nominal s-final roots if the word contains no genitive case ending (the postpositive article disregarded). Example: ís "ice", gen. sg. íss [ɪ̥s].

(b) in those forms of ð-final verbal roots in which /ð/ is replaced by /d̥/. Examples: bíða "wait", impl. bíddu; loða "cleave", pret. löddi.

(c) in the dative singular feminine and the genitive plural of monosyllabic vowel-final noun roots whose only ending is the postpositive article. Example: á "river", definite dat. sg. ánni, gen. pl. ánna.

Apart from the limitation concerning the clusters /sj, sr, ? sv/, mentioned sub (1) above, there are no exceptions to the quantity rule as formulated here. Nevertheless the present formulation is not satisfying, for the following reasons, among others:

(i) The rule is not formalised, and it seems that any attempt at its formalisation would encounter major obstacles. Consider, e.g., point (4b) above.

(ii) Also needed is a phonological rule regulating vowel quantity in non-initial syllables bearing the so-called rhythmical stresses. The formulation of such a rule, when it is attempted, will undoubtedly have repercussions on the part of the rule regulating the quantity of the vowels in initial syllables.

The Southern Icelandic quantity rule can also account for Northern Icelandic quantity, whereas the Northern Icelandic quantity rule (for which see Orešnik & Pétursson 1977) cannot account for Southern Icelandic quantity (because it presupposes the existence of long consonants in the language, and these, barring the r, are absent from Southern Icelandic). Hence it is conceivable that the Southern Icelandic quantity rule is also used in Northern Icelandic and in the transitional zones between linmæli and harðmæli, of course in conjunction with another rule lengthening consonants immediately following short vowels.

7.   Appendix B: On /dl, dn/. This Appendix deals with the descriptive origin of /d̥/ in the clusters /d̥l, d̥n/ not preceded by preaspiration. (A less complete treatment of the same subject is Orešnik 1973.)

It is necessary to distinguish between lexicalised and non-lexicalised /d̥/'s, along the same lines as between lexicalised and non-lexicalised preaspiration (see section 3 above). Examples: the /d̥/ of villa [vɪd̥la] "mistake" is lexicalised, because it occurs in all the forms of the word. The /d̥/ of einn [eid̥n̥] "one" is not lexicalised, because it occurs only in some forms of the word (e.g. not in its dat. sg. m. einum).

There is some doubt concerning the treatment of the cases such as <u>fall</u>
"fall". The word contains [ḍ] in all its forms, except in the gen. sg. <u>falls</u>
[fals]. I will here assume, without argumentation, that the /ḍ/ of <u>fall</u> is
lexicalised and deleted in the gen. <u>falls</u> by a phonological rule which dele-
tes /ḍ/ in the environment

        V___CD   where C stands for any consonant, and D for dental plosi-
                ves or /s/

(This rule is responsible, e.g., for the nom./acc. sg. n. <u>allt</u> "all" wit-
hout [ḍ].) [11]

(Another special case are those non-lexicalised /ḍ/'s standing between /r/
and /l, n/ (where /r/ sometimes disappears), e.g. <u>ferill</u> "track, trace",
nom. pl. <u>ferlar</u> [-rḍl-] , <u>farinn</u> "gone", dat. pl. <u>förnum</u> [-rḍn-]. This
type of /ḍ/ will be disregarded in what follows.)

The remainder of this appendix will be devoted to the treatment of non-le-
xicalised /ḍ/'s. Such /ḍ/'s occur only in nominal inflectional paradigms,
i.e. in nouns and adjectives. (A non-nominal exception: the irregular ver-
bal form <u>vill</u>, 3p. sg. pres. ind. of <u>vilja</u> "will, want".) Furthermore, such
/ḍ/'s occur only between a vowel and a root-final /l/ or /n/, e.g. <u>stóll</u>
"chair", <u>einn</u> "one". They appear in the following case forms:

      (a) in nouns: in the nominative singular of strong masculine nouns;

      (b) in adjectives: in the strong cases nominative singular masculine,
genitive singular feminine, dative singular feminine, genitive plural; in one
isolated instance in the accusative singular masculine (<u>einn</u> ~ <u>einan</u>); in bis-
yllabic comparatives, also when used adverbially.

The vowel which immediately precedes the non-lexicalised /ḍ/ is always
short on the systematic phonetic level, but the same vowel is long in at
least one another form of the same inflectional paradigm.

The non-lexicalised /ḍ/ cannot occur after all vowels, only after some:

      (1) If the root ends in /n/, the permissible vowels comprise the di-
phthongs and /i, u, e/. Examples: /au/ <u>Spánn</u> "Spain", /ou/ <u>tónn</u> "tone",
/ei/ <u>seinn</u> "late", /öi/ <u>daunn</u> "smell", /ai/ <u>vænn</u> "promising , handsome",
/i/ <u>sýnn</u> "visible", /u/ <u>brúnn</u> "brown". There is only reason to discuss /e/.
Non-lexicalised /ḍ/ always occurs in the relevant forms of <u>klén-</u> "snug"
and of the pp. <u>sén-</u> of <u>sjá</u> "see" (still used in some compounds, e.g. in
<u>auð-sénn</u> beside <u>auð-séður</u> "easily seen, evident". The simplex |<u>sén-</u> is
obsolete.), sometimes in <u>pen-</u> "nice" (nom. sg. m. <u>pen</u> and <u>penn</u>), never in
<u>fláspen-</u> "having teats grown together (of cow, sheep)" (gen. sg. f. fláspen-

<u>rar</u>, dat. sg.f. <u>fláspenri</u>; information provided by Svavar Sigmundsson) or <u>sárspen-</u> "having tender teats". These are the only modern Icelandic <u>en</u>-final nominal roots known to me in which non-lexicalised /ḍ/ occurs or could occur, barring the mythological name <u>Glen-ur</u> "the husband of the Sun". - Non-lexicalised /ḍ/ occurs also in unstressed syllables after some of the vowels listed above, but the examples are few; one is <u>kapteinn</u> "captain".

    (2) If the root ends in /l/, the permissible vowels comprise the diphthongs, /i, u/, seldom /e, I, o, ö/, and unstressed /a, e, I, Y/. Examples: /ou/ <u>stóll</u> "chair", /au/ <u>admíráll</u> "admiral", /ei/ <u>veill</u> "weakly", /öi/ <u>haull</u> "hernia", /ai/ <u>þræll</u> "slave", /i/ <u>bíll</u> "car", /u/ <u>gull</u> "mouth cavity", /e, I, o, ö/ see below, unstressed /a/ <u>aðall</u> "nobility", unstressed /e/ <u>panell</u> "panel", <u>Þorkell</u> man's name, unstressed /I/ <u>mikill</u> "big", unstressed /Y/ <u>jökull</u> "glacier", <u>karbunkull</u> "carbuncle". After the stressed /e/ non-lexicalised /ḍ/ is found in the noun <u>mell</u>, used dialectally instead of the normal word <u>melur</u> "gravel plain". After the stressed /I/ non-lexicalised /ḍ/ occurs in the verbal form <u>vill</u> mentioned above, and in the noun <u>hyll,</u> used dialectally instead of the normal word <u>hylur</u> "deep pool (in river)". After the stressed /ö/ non-lexicalised /ḍ/ is found in the noun <u>kjöll</u>, used in the poetical language with the meaning of "ship" (in which meaning the word is probably a variant of <u>kjölur</u> "keel"), and "dress, gown" (Blöndal). After the stressed /o/ non-lexicalised /ḍ/ is found in the noun <u>hvoll</u> "hill" (vo < <u>vá</u>, but this is irrelevant), frequent in placenames (<u>Kirkju-</u>, <u>Arnar-</u>, <u>Helga-</u>, etc.).

However, even in the environments described above, non-lexicalised /ḍ/ can be absent or optional. Examples: <u>barón</u> "baron", <u>Jón, Kristján, Stefán, Halfdán</u> men's names, <u>kompán/kumpán</u> "companion", <u>soldán</u> "sultan", <u>Hafstein</u> family name, <u>skorpíón</u> "scorpion", <u>trón(n)</u> "throne", <u>þjón(n)</u> "servant" (in both last instances /ḍ/ optional in older language only); <u>Ísrael</u> m. name of country, <u>Axel</u> man's name, <u>Blöndal</u> family name, etc.[12]

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11   The truncation of /ḍ/ in /ḍls/ is no longer obligatory. Cf. <u>karls,</u> which can be pronounced [kʰals] or [kʰaḍls] (Halldór Halldórsson 1977:68). Stefán Einarsson (1945:423) transcribes <u>polls</u> of <u>pollur</u> as [pʰɔḍls].

12   In Öræfi /ḍ/ is not pronounced in words such as <u>beinn</u>, <u>vænn</u> (Björn Guðfinnsson 1946:129).

This exposition has shown that the non-lexicalised /ḍ/ is not likely to be due to the operation of a phonological rule: there is no suitable source of /ḍ/, and the vowels that can immediately precede /ḍ/ - or the complement of these vowels - do not form a natural class. Moreover, the language abounds in minimal pairs such as nom. sg. admírall - acc. sg. admíral, which seem to postulate that the rule generating the non-lexicalised /ḍ/ also mention morphological environments.

Valfells 1967 and Anderson 1969 have suggested - in passing, without argumentation, and without discussing the complete material - desinence-initial /r/ as the source of the non-lexicalised /ḍ/. Thus the gen. pl. einna of einn "one" would be derived from /ein+ra/, and be parallel to the gen. pl. van-ra of vanur "accustomed". This abstract solution cannot be correct. Parallel to all the adjectival forms containing non-lexicalised /ḍ/ except the nominative singular forms there are colloquial forms containing both the /ḍ/ and an /r/-initial case marker:

gen. pl. einna and coll. einnra [-ḍnr-]
dat. sg. f. einni einnri [-ḍnr-]
gen. sg.f. einnar einnrar [-ḍnr-]

The coexistence of /ḍ/ and /r/ in the same forms makes it improbable that the native learners of the language form, subconsciously, the hypothesis that the /r/ of the desinence is the source of the /ḍ/.

In my opinion, the non-lexicalised /ḍ/ is a morphological unit, an INFIX, which either alone or accompanied by a suffix constitutes the ending of certain grammatical forms. Examples: in the nom. sg. m. einn the infix /ḍ/ is the only case marker; in the gen. pl. einna it is accompanied by the suffix /+a/.

Nouns and adjectives whose roots end in /n/ or /l/ must be classified into two declensional classes, one of which takes the infix /ḍ/ in certain forms, and the other does not. The membership in these classes is no longer predictable: contrast tónn "tone", with the infix, and the name Jón without it; likewise hvoll "hill" with the infix, and bol-ur "trunk" (of tree, body)" without it.

If the non-lexicalised /ḍ/ is an infix, as suggested here, it is not generated by any phonological rule, but is inserted into the representations by the same mechanism that introduces other endings. This mechanism operates earlier in the derivation than all phonological rules. Consequently, the infix /ḍ/ is present in the UNDERLYING phonological representations of certain grammatical forms, and the phonological rules (including the quantity rule) must take this fact into consideration.

REFERENCES

Anderson, Stephen R.: West-Scandinavian vowel systems and the ordering of phonological rules. MIT doctoral dissertation. Cambridge, Mass., 1969.

Árnason, Kristján: "Preaspiration in modern Icelandic: Phonetics and phonology." Sjötíu ritgerðir helgaðar Jakobi Benediktssyni 20. júlí 1977, pp. 495-504. Reykjavík, 1977.

Bandle, Oskar: Die Sprache der Guðbrandsbiblía. Bibliotheca Arnamagnæana 17. Copenhagen, 1956.

Blöndal, Sigfús: Íslensk-dönsk orðabók. Reykjavík, 1920-24.

Brunner, Karl: Die englische Sprache. Vol. 2. Second edition. Tübingen, 1962.

Einarsson, Stefán: Icelandic. Grammar. Texts. Glossary. Baltimore, 1945. - I have used the impression of 1967.

Garnes, Sara: Quantity in Icelandic: Production and perception. Hamburger phonetische Beiträge 18. Hamburg, 1976.

Guðfinnsson, Björn: Mállýzkur I. Reykjavík, 1946.

Halldórsson, Halldór: "Um orðið vatn(s)karl, form þess, merkingar og uppruna". Árbók Hins íslenzka fornleifafélags 1977:63-89. Reykjavík.

Haugen, Einar: "The phonemics of modern Icelandic." Language 1958:55-88. Baltimore.

Helgason, Jón: Íslenzk fornkvæði. Islandske folkeviser. Editiones Arnamagnæanæ, series B, vol. 10 (1962a), 11 (1962b), 12 (1962c), 13 (1963), 14 (1965), 15 (1968), 16 (1970). Copenhagen.

Jespersen, Otto: Growth and structure of the English language. Ninth edition. Oxford, 1967.

Kiparsky, Paul: "How abstract is phonology?" Mimeographed, 1968. Printed in a revised form in Three dimensions of linguistic theory, ed. O. Fujimura, 1973.

Kress, Bruno: Laut- und Formenlehre des Isländischen. Halle/Saale, 1963.

Noreen, Adolf: Altisländische und altnorwegische Grammatik (Laut- und Flexionslehre) unter Berücksichtigung des Urnordischen. Sammlung kurzer Grammatiken germanischer Dialekte. A. Hauptreihe Nr. 4. Fourth edition. Tübingen, 1923.

Orešnik, Janez: "Old Icelandic consonant lengthening rule and modern Icelandic infixation of /ð/." Linguistica 13, 229-61. Ljubljana, 1973.

Orešnik, Janez and Magnús Pétursson: "Quantity in modern Icelandic." Arkiv för nordisk filologi 92, 155-71. Lund, 1977.

Pétursson, Magnús: Les articulations de l´islandais à la lumière de la radiocinématographie. Collection lingustique publiée par la Société de linguistique de Paris LXVIII. Paris, 1974.

Pétursson, Magnús: "La quantité en islandais moderne: un fait régional." Linguistica 17, 73-89. Ljubljana, 1978.

Thráinsson, Höskuldur: "On the phonology of Icelandic preaspiration." Nordic Journal of Linguistics 1, 3-54, Oslo, 1978.

Þórólfsson, Björn Karel: Um íslenskar orðmyndir á 14. og 15. öld og breytingar þeirra úr fornmálinu. Reykjavík, 1925.

Valfells, Sigrid: "Umlaut" - alternations in modern Icelandic. Harvard doctoral dissertation. Cambridge, Mass., 1967.

Wyld, Henry Cecil: A short history of English. Third edition. London, 1927.

Povzetek

NOVOISLANDSKA PREASPIRACIJA S FONOLOŠKEGA VIDIKA

Članek se ukvarja s fonologijo novoislandske preaspiracije. Pravilo, ki izdeluje neleksikalizirane primerke preaspiracije pred p, t, k + l, n, deluje na področju harðmæli drugače kot na področju linmæli. V harðmæli izdeluje pravilo preaspiracijo pred aspiriranim zapornikom + /l, n/. (Aspiracijo zapornika odpravi poznejše deaspiracijsko pravilo.) V linmæli izdeluje pravilo preaspiracijo pred zapornikom + /l,n/, če je v fleksijski paradigmi oblike, v kateri naj bi pravilo delovalo, vsaj ena oblika, ki vsebuje dolg samoglasnik + zapornik (pri čemer gre za tista samoglasnik in zapornik, ki sta omenjena v strukturnem opisu preaspiracijskega pravila). - Vsi primerki preaspiracije v pp, kk(j) in nekateri primerki preaspiracije v tt so leksikalizirani. Neleksikalizirane primerke preaspiracije v tt izdelujejo morfološka pravila. - Dodatek A je o južnoislandski kvantiteti, dodatek B pa o neleksikaliziranem /ð/, kakršen je na primer v imenovalniku ednine stóll "stol".