

# Inflectional tones and morpheme expression in Limburg Dutch

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## Gender loss in Dutch

Some dialects still have a three-way gender distinction, e.g. on adjectives (Louvain dialect; Goemans 1897):

gender	example
masculine	(e)n-en gruet-en man a big man
feminine	en-(e) grot-e vrā a big woman
neuter	en-θ gruet-θ kind a big child

The distinction masculine/feminine is lost in many modern dialects, e.g. in the standard language:

gender	example
m/f	een-θ grot-e man a big man een-θ grot-e vrouw a big woman
neuter	een-θ groot-θ kind a big child

## Covert feminine inflection

If the inflectional ending of the feminine is lost, phonological behaviour may still reveal its presence

### 1. No place assimilation (Aalten Dutch; Taeldeman 1980)

- klein 'small' (/klein/)
- een klei[n] kind 'a small child' (n)
- een klei[n] vrouw 'a small woman' (f)

### 2. Lenition (Limburg; Taeldeman 1980)

- goed 'good' (/gud/)
- een goe[t] kind 'a good child' (n)
- een goe[i] vrouw 'a good woman' (f)

### 3. No Final devoicing (Twente; MAND)

- droog 'dry' (/drøγ/)
- een drool[x] koekje 'a dry cookie' (n)
- een drool[γ] taart 'a dry cake' (f)

## Structure of feminine

In these cases, it looks as if the schwa has gone, but feminine is still expressed by an abstract position:



Faithfulness prevents the empty mora from being filled; but it also prevents the position from being deleted. The word-final consonant is in an onset, not in a coda (K. Rice 2003).

## Tonal alternations

- If the stem ends in a voiced consonant (or a sonorant, or a vowel) we find two patterns:
  - neuter: bumping, feminine: bumping
  - neuter: dragging, feminine: bumping
- If the stem ends in a voiceless obstruent, we find falling-falling patterns (possibly next to the other two)

	n	f	m	
alternation	wís	wís	wízə	'wise'
	dóuf	dóuf	dóuvə	'deaf'
	láám	láám	láámə	'lame'
no alternation	kálm	kálm	kálmə	'calm'
	kléén	kléén	kléénə	'small'
schwa	ríik	ríikə	ríikə	'rich'
	nááks	nááksə	nááksə	'naked'
	záát	záátə	záátə	'lame'

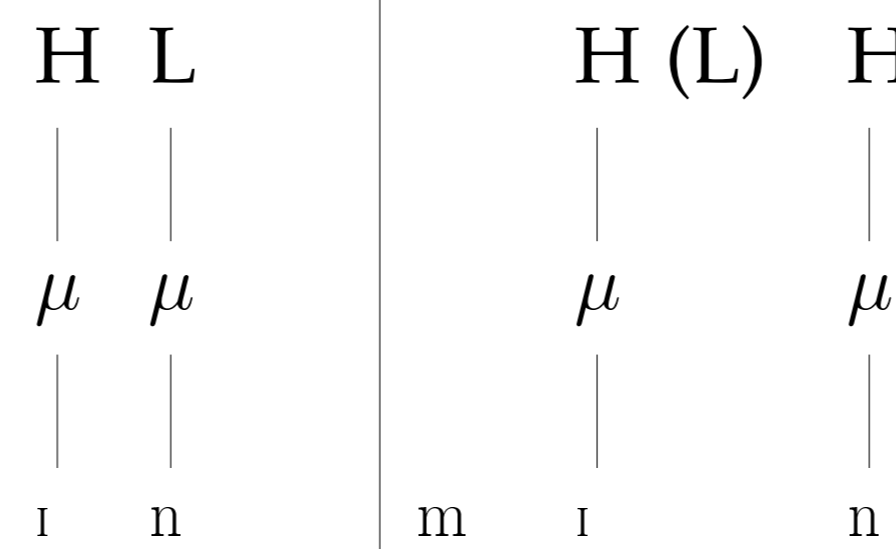
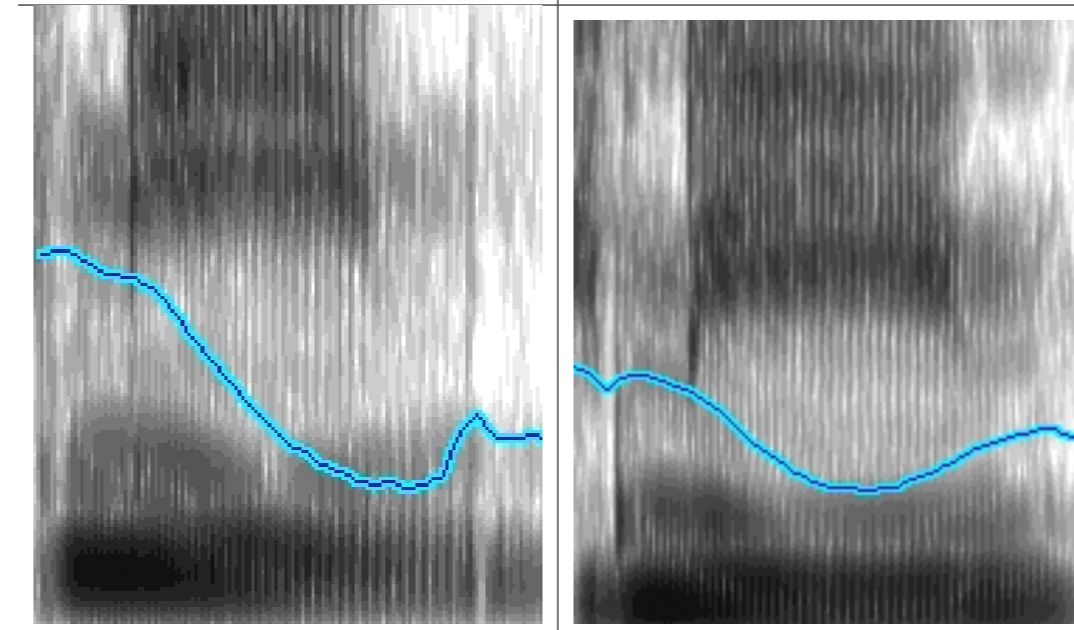
## Cross-dialectal statistics

In the GTR database, we find 473 potential pairs (for dialects across Limburg):

Tone on n	Tone on f	# of items	Proportion
Dragging	Bumping	157	.33
Dragging	Dragging	64	.14
Bumping	Bumping	246	.52
Bumping	Dragging	6	.01

## Representation of tone

bumping tone | dragging tone

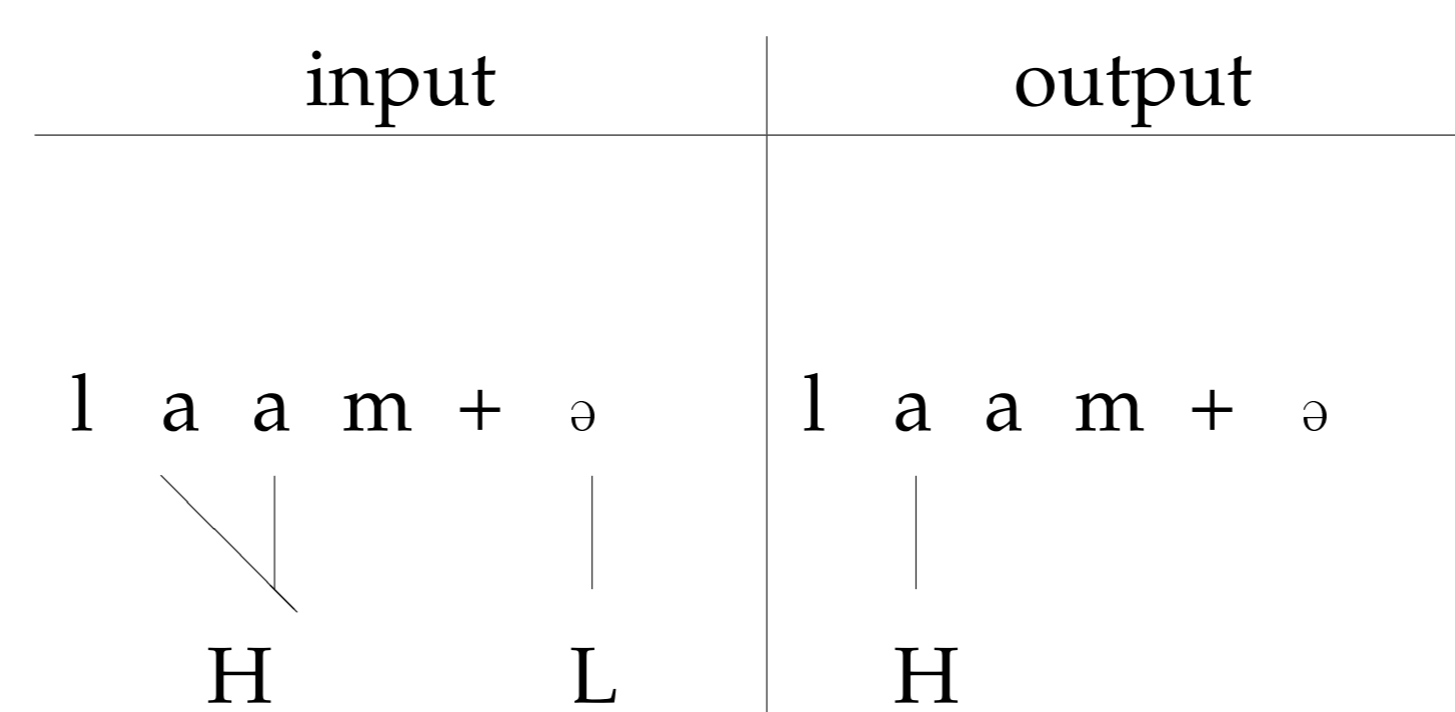


## A paradigmatic approach

Alderete (1999) analyses this phenomenon in terms of an output-output antifaithfulness constraint:

- $\neg$ NO-FLOP-TONE If a segment  $s_1$  is linked to a tone  $T_1$  in the neuter, a corresponding segment  $s_2$  should not be linked to a corresponding tone  $T_2$  in the feminine (and masculine)

This gives us the following neuter-feminine pair for the masculine form of lame:



This seems a logical account within a paradigm theory, although an alternative is feasible: one in which there is faithfulness (with the masculine) rather than antifaithfulness with the neuter. Both have to face a number of problems.

## Problems with paradigms

- Interaction with voicelessness on obstruents.

We might be able to constrain  $\neg$ NO-FLOP-TONE in such a way that it does not affect words ending in a voiceless obstruent, but even then, there is no reason why a schwa should appear at the same time. Allomorphy is not a notion to which we can refer, since this approach does not refer to morphemes at all.

- On a formal level, we argue that interparadigmatic faithfulness is too abstract and too powerful a formal device to incorporate into our theory too lightly. The approach

defended in this paper might be slightly abstract, but the antifaithfulness approach is abstract in many more ways. Not only does it posit 'toneless' mora's in stressed syllables, which then have to be interpreted as low, but also do we have to assume correspondence relations among individual segments and tones in words - and none of these can be observed phonetically anymore than morphological superscripts can.

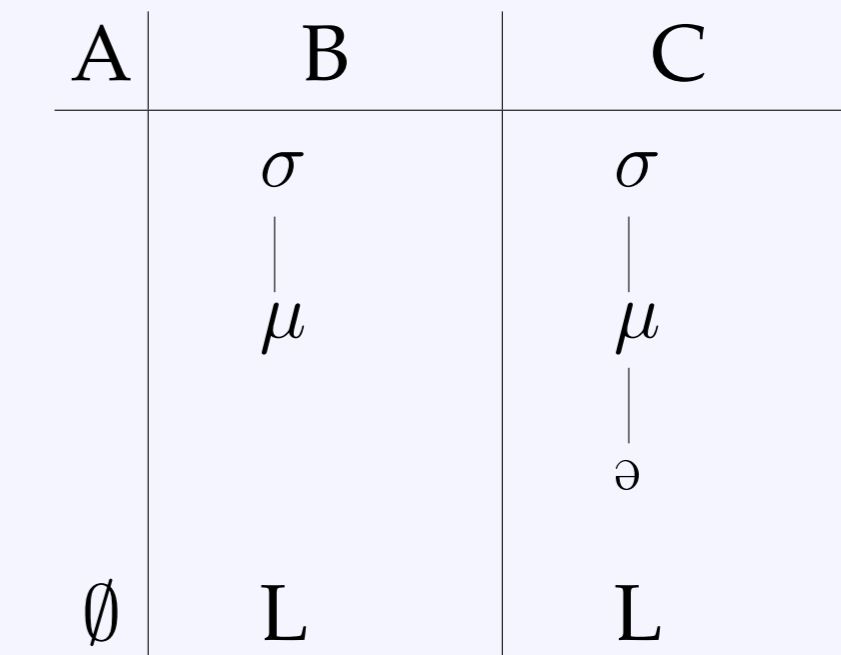
- What about all the other types of 'feminine without overt inflection'? (See left-hand column.)

## Limburg



## A representational approach

- PITCH: The head mora of the syllable with primary stress needs to have a high tone.



- The neuter is expressed by suffix A.
- The feminine is expressed by suffix B.
- The masculine is expressed by suffix C.

## Neuter and masculine suffixes

1. If we add a neuter (empty) suffix to a lexical form with a low tone, the underlying low tone will show up on the second mora.

- TONETOStRESS: Tones need to be in the syllable bearing main stress
- MAXTONE: Do not delete tones
- PITCH  $\gg$  TONETOStRESS  $\gg$  MAXTONE

/kalm +Low/ + $\emptyset$	PITCH	TONETOStRESS	MAXTONE
a. [kálm]	*!		
b. [kálm]			*!
c. $\emptyset$ [kálm]			

2. If we add a neuter empty suffix to a lexical form with an underlying level high tone, the result still is a level high tone.
3. If we add a masculine (low tone) suffix to a lexical form with a low tone, we will get a low toned form.
4. If we add a masculine (low tone) suffix to a lexical form without a tone, the low tone of the suffix will surface, and a falling tone will ensue.

## Stems in voiceless obstruents

- $L \supset [+voice]$ : A Low tone implies a feature value [+voice] Harris 1994, Bradshaw 1999, Hermans & Van Oostendorp 2001

The masculine:

/riik/ + /ə+ Low/	$L \supset [+voice]$	MAXTONE	StRESSToTONE
a. [ríikə]		*	*!
b. [ríikə]	*!		*
c. $\emptyset$ [ríikə]		*	

## Feminine suffixes

When we add a feminine suffix to a stem, the result will normally be a low tone:

/laam/ + /Low/	PITCH	TONETOStRESS	MAXTONE
a. [laam]	*!		*
b. [láam]			*!
c. [láám]			*!
d. [láám]	*!		*
e. $\emptyset$ [láám]			*

As in the cases in the lefthand column, we assume faithfulness prevents insertion of a schwa in the empty position, except where also the tone cannot surface (because of the voiceless obstruent). We then would have violation of:

- REALIZE-MORPHEME (RM): For every morpheme in the input, some phonological element should be present in the output.

This constraint valuates the candidates as follows:

UR	bad	good	good
$r_i i_i k_i \emptyset_j$	$r_i i_i k_i$	$r_i i_i k_i$	$r_i i_i k_i \emptyset_j$
	$L_j$	$L_j$	

$L \supset [+voice]$  will filter out  $ríik$ , so that  $ríikə$  wins.