The internal structure of diphthongs: Prominence and sonority in the nucleus

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CLAIMS

Diphthongs (tautosyllabic pairs of vowels) are usually classified as

rising sonority or opening (ia, ua)

falling sonority or closing (au, au)

We argue that diphthongs are μμ microfeet.

μμ microfeet are even trochaic, even iambic or quality/sonority sensitive:

Trochaic Prominence	ái	ía	úi	√
Iambic Prominence	aí	iá	uí	√
Quality Sensitive Prominence, default to trochee	ái	iá	úi	√
Quality Sensitive Prominence, default to iamb	ái	iá	uí	√
Quantity Sensitive Prominence	ai:	á:i		*

TROCHAIC PROMINENCE

with Falling sonority

xeɪs 'kings'   xɛɪs 'cents'   Brazilian Portuguese (Cagliari 1977)
boɪ 'bull'   dɔɪ 'it hurts'   'the beginning part of the diphthong is more prominent than the final part'
paɪ 'father'   fuɪ 'I went'
seʊ 'yours'   sɛʊ 'sky'
soʊ 'I am'   sɔʊ 'sun'
saʊ 'salt'   suʊ 'south'   viʊ 'she saw'

with Plateaux and Falling sonority

iu   Hawaiian (Pukui & Elbert 1986)
ai, ae, au, ao, ei, eu, oi, ou   'always stressed on the first element'

with Rising sonority

iə̯, uə̯, eə̯   Crow (Graczyk 2007)
'long vowel followed by a schwa off-glide'
ə̯ deletes in hiatus

with Falling and Rising sonority

aj, əi, ɔw; ia, uə   White Hmong (Heimbach 1986)

MICROTROCHEE: Tautosyllabic μμ is a trochaic microfoot (x.)

(x.)
μμ
| |
VV

IAMBIC PROMINENCE

ai, ia, eo, oe… (36)   Estonian (Asu & Teras 2009)

Estonian V_1=75-105ms, V_2=100-115ms (Piir 1985)
Finnish V_1=110ms, V_2 =60ms   (Niemellä & Määttä 1998)

MICROIAMB: tautosyllabic μμ is an iambic microfoot (cf. Kager 1993, Metzler & Driscoll 2018)

(.x)
μμ
| |
VV

	MicroFootTrochee	MicroFootIamb
☞ úa		*
uá	*!	

	MicroFootIamb	MicroFootTrochee
áu	*!	
☞ aú		*

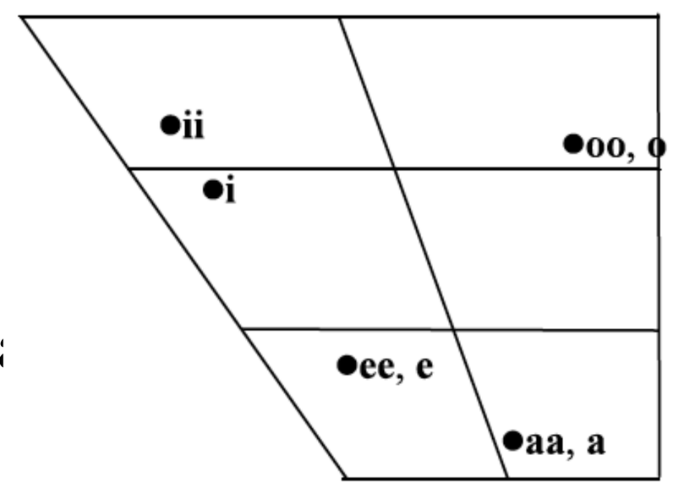
QUALITY-SENSITIVE PROMINENCE

QUALITYSENSITIVITY: Prominence coincides with a sonority peak.
(Kenstowicz 1997; but see Shih & deLacy in press)

a > e > o > i > u   Kiparsky 1979
ai̯, au̯ vs. i̯a, u̯a …   Italian (Bertinetto/Loporcaro 2005, Veer 2006)
iu̯, u̯i   Sixian Hakka (Hsu 2004)
i survives u in syllable contraction

Plateaux realized trochaically

a, ɛ > o, i   Seri (Marlett 1981)
áo, ái, oá, oɛ́
ɛ́a, ói   plateaux→ troch.



QUALITYSENSITIVITY ›› MICROFOOTFORM

Spanish vowels i e a o u

Falling diphthongs
áu aula
ái aire
éi reina

Rising diphthongs
iá piano   uá agua
ié tierra   ué trueno
ió radio
uó cuota

Default to iamb with plateauing diphthongs
iú ciudad
uí fuimos

Lexically stressed i and u get hiatus: *pa.ís, dí.a* (Martínez-Paricio 2013)

Catalan
Default to trochee with plateauing diphthongs
íu, úi   (Martínez-Paricio & Torres Tamarit 2013)

	QualitySensitivity	MicroTrochee	MicroIamb
☞ ái			*
aí	*!	*	

	QualitySensitivity	MicroTrochee	MicroIamb
ía	*!		*
☞ iá		*	

	QualitySensitivity	MicroTrochee	MicroIamb
☞ úi			*
uí		*!	

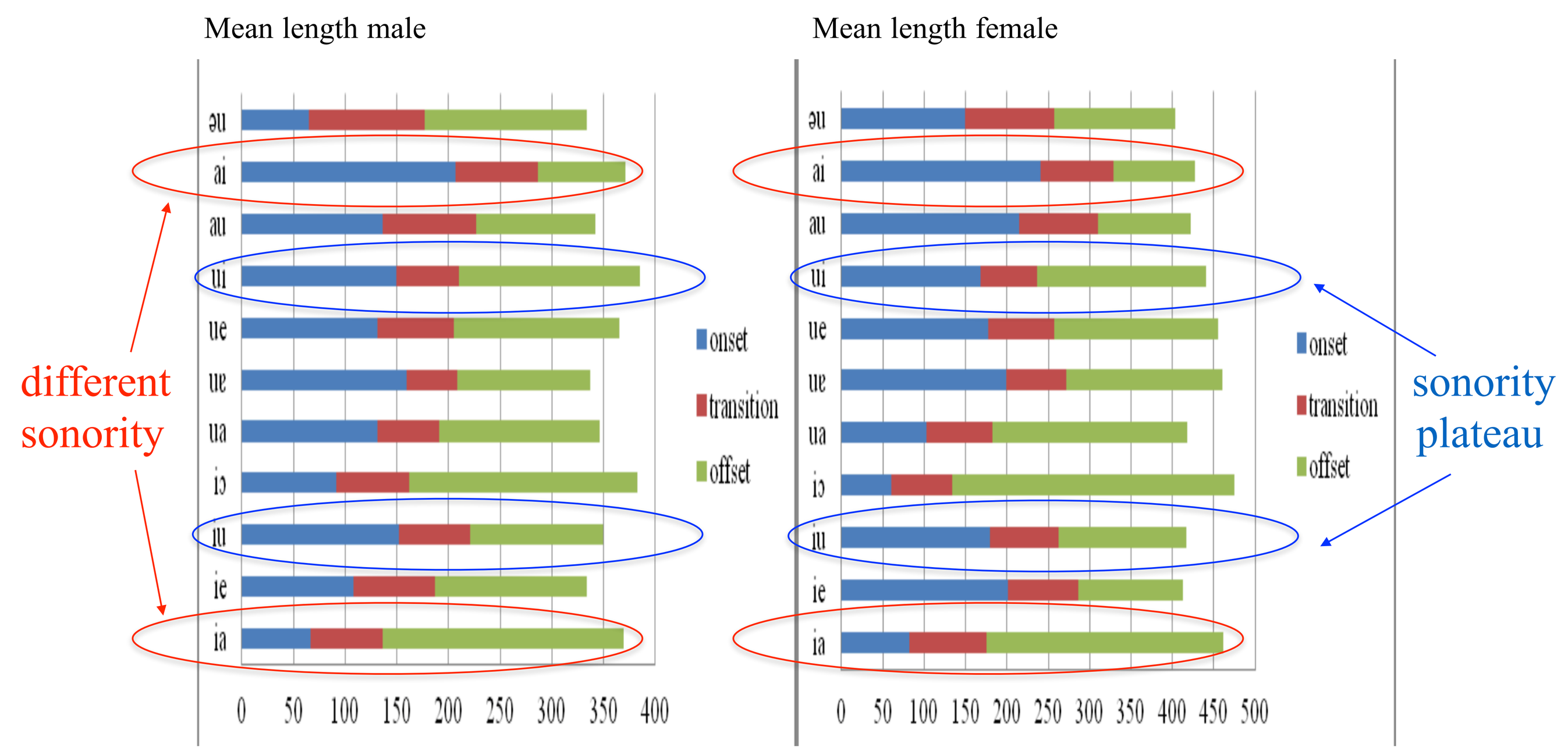
QUANTITY IS IRRELEVANT FOR MICROFEET

Seri overlength does not interfere with Quality Sensitivity

(x.)   (x.)   (.x)
μμ   μμ   μμ
á:i á:o í:o ó:i   ái: ɛ́a: éi: ói: oá: oɛ́:

Cangnan Southern Min overlength reflects sonority (Hu & Ge 2016)

(.x)   (x.)   (x.)
μμ   μμ   μμ
ia, ie,iɔ, ue, ua, uɐ, ui   ai, əu, iu   iəu, uai,iau



Quantitative gradation Northern Saami (Sammallahti 1998)

Trochaic microfoot   Quality-Sensitivity in μ grade

(x.)   (.)
μμ   μ
| | /\
ie̯ uo̯ ea̯ oa̯   i̯e u̯o e̯a o̯a

SUMMARY

Typology

Trochaic Prominence	ái	ía	úi	BP
Iambic Prominence	aí	iá	uí	Estonian
Quality Sensitive Prominence, default to trochee	ái	iá	úi	Catalan
Quality Sensitive Prominence, default to iamb	ái	iá	uí	Spanish
Quantity Sensitive Prominence	ai:	á:i		*

- μμ syllables are microfeet
- μμ microfeet are even and trochaic
- μμ microfeet are even and iambic (cf. Metzler & Driscoll 2018)
- μμ microfeet are quality/sonority-sensitive
- Quantity-sensitive microfeet are not attested
- CON: QUALITYSENSITIVITY, MICROTROCHEE, MICROIAMB
- Long-short distinction in diphthongs is mora sharing

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