BOGUS CLUSTERS AND TUSCAN ITALIAN: IMPLICATIONS FOR THE THEORY OF SONORITY

Shanti Ulfsbjorninn
University of Lyon and UCL - London
s.ulfsbjorninn@ucl.ac.uk

METRICAL LENGTHENING

[ví:peɾa] *[vípeɾa] ‘vipera’

[muɾɛ́:na] *[muɾɛ́na] ‘moray eel’

[kaɾitá] *[kaɾitá:] ‘charity’

This interaction is known as *metrical* or *tonic lengthening* (cf. Hayes 1995).

In Tuscan, all vowel length is a product of *Metrical lengthening*. Long vowels are otherwise illicit: [viper-átʃ:a] *[vi:per-átʃ:a] ‘bad viper’ (cf. [ví:peɾa]) and [alabá:ma] *[a:labá:ma] ‘Alabama’ (cf. àlabáma *Eng*).

This is different from Standardised Tuscan, a variety with metrical lengthening only in penultimate position (Savoia 2014).

METRICAL LENGTHENING AND HETEROSYLLABICITY

(1) Length is blocked before heterosyllabic structures

	Antepenultimate		**Penultimate**	
Stop	[dzɔ́k:olo]	‘clog’	[maɾmɔ́t:a]	‘marmot’
Affricate	[kjɔ́tʃ:ola]	‘snail’	[ɾítʃ:o]	‘hedgehog’
Nasal	[míɲ:olo]	‘little finger’	[kán:a]	‘spliff’
Lateral	[libɛ́l:ula]	‘damselfly’	[koɾál:o]	‘coral’
Rhotic	[tɔ́r:iðo]	‘scorching’	[vɛ́r:e]	‘male fox’

METRICAL LENGTHENING AND CC

Unlike geminates that never permit vowel length before them, consonant clusters have variable patterning. CCs split into two types.

There are those that behave like heterosyllabic geminates:

[mósto, ménta, pólpo, tʃɛ́rvo] ‘must, mint, octopus, deer’

And those that behave like singletons:

c[á:]pra, v[é:]tro, s[ɔ́:]brio, c[í:]clo ‘goat, glass, sober, cycle’.

METRICAL LENGTHENING AND CC

Length permitted

pr, br, tr, dr, kr, gr, kl, gl

Length banned

rp, rb, rt, rd, rtʃ, rdʒ, rk, rg, rm, rn, rl, lp, lb, lt, ld, ltʃ, ldʒ, lk, lg, lf, lv, rf, rv, lm, ln, mp, mb, nt, nd, ntʃ, ndʒ, ŋk, ŋg, nf, ns, sp, st, sk, fk ps, tl, tn, kt, pt, tm, pn, tn, tl

METRICAL LENGTHENING AND SONORITY

3) Sonority differential (Parker 2011)

$$C2 - C1 = \Delta x$$

(4) Sonority Hierarchy

Glide	8
Rhotic	7
Lateral	6
Nasal	5
Fricative	4
Affricate	3
Stop	2

METRICAL LENGTHENING AND SONORITY

(5) Sonority differential of CCs permitting length

Steep Rises:

(i)	Stop - Rhotic	pr	::	r |7| - p |2|	=	Δ5
(ii)	Stop – Lateral	kl	::	l |6| - k |2|	=	Δ4

METRICAL LENGTHENING AND SONORITY

(6) Sonority differential of CCs banning length

(a) Steep falls							
	(i)	Rhotic – Stop	rp	::	p |2| - r |7|	=	Δ-5
	(ii)	Rhotic – Affricate	rtʃ	::	tʃ |3| - r |7|	=	Δ-4
	(iii)	Lateral – Stop	lp	::	p |2| - l |6|	=	Δ-4
	(iv)	Lateral – Affricate	ltʃ	::	tʃ |3| - l |6|	=	Δ-3
(b) Shallow fall:	(i)	Fricative – Stop	st	::	t |2| - s |4|	=	Δ-2
(c) Near flat	(i)	Lateral – Nasal	ln	::	n |5| - l |6|	=	Δ-1
	(ii)	Rhotic – Lateral	rl	::	l |6| - r |7|	=	Δ-1
(d) Shallow rises	(i)	Stop – Fricative	ps	::	s |4| - p |2|	=	Δ2
(e) Steep rises	(i)	Stop – Lateral	tl	::	l |6| - t |2|	=	Δ4

GORGIA TOSCANA AND

7) *Gorgia Toscana* distribution and realization across Tuscany

(a) Massa-Carrara/N Lucca	–	none
(b) Arezzo	–	Restricted to /k/
(c) Pisa/Livorno	–	Restricted to /k, t, d/
(d) Florence/Siena	–	Full: /p, b, t, d, k, g/ › /ɸ, β, θ, ð, h or ɦ, ɣ/
(e) GR/Maremma	–	Full: /p, b, t, d, k, g/ › /ɸ, β, θ, ð, x, ɣ/ or… /ᵖɸ, ᵇβ, tᶿ, dᵭ, x, ɣ/

Pace Marotta (2008) who claims (based on old data) that Grosseto patterns with Livorno and Pisa. It is possible that *Gorgia* has been extended in recent decades, but essentially all stops lenite.

Marotta (2008) also reports fricativised stops as lenition outcomes in Pisa.

TUSCAN DEAFFRICATION

(8) Tuscan de-affrication

(a)	[tʃé:ɾa]	‘wax’	›	[la-ʃé:ɾa]	‘the wax’
(b)	[dʒóɾno]	‘day’	›	[i-ʒóɾni]	‘the days’

DEFINING CONTEXT OF GORGIA

(9) *Gorgia Toscana I (to be rejected)*

[+cons, -son, -cont] → [+cont] / [-cons, +cont] __

MISPREDICTION

Cluster	Initial?	Example	Counterfactual	Gloss
tl	no	[atléta]	*[aθléta]	‘athelete’
tn	no	[étna]	*[éθna]	‘Etna’
tm	only	[la-tmé:si]	*[la-θmé:si]	‘tmesis’
pn	yes	[apné:a] [lo-pneumáθixo]	*[loɸneumáθixo]	‘breathlessness’ ‘the tire’
ps	yes	[ípsilɔn] [lo-psixoanalista]	*[íɸsilɔn] *[loɸsixoanalista]	‘Y’ ‘the psychoanalyst’
kt	no	[íktus]	*[íxtus]	‘stroke’
pt	only	[lo-pteɾoðat:ilo]	*[loɸteɾoðat:ilo]	‘the pterodactyl’

GORGIA DEFINITON II

(11) *Gorgia Toscana II (to be rejected)*

[+cons, -son, -cont] → [+son, +cont] / [+son, +cont] __ [+son, +cont]

Misprediction: If rhotics are special in being sonorant continuants in Tuscan and *Gorgia* applies in an intersonorant context, then the rule predicts that spirantisation should apply symmetrically in 'rhotic__vowel' sequences. However, these contexts do not trigger *Gorgia* (or deaffrication): [kɔ́r**p**o] *[kɔ́r**ɸ**o] 'body', [sɔ́r**tʃ**o] *[sɔ́r**ʃ**o] 'mouse'.

GORGIA AND CCS

	Gorgia		**Gloss**	
pr	[**pr**ɛ́:**ɣ**o]	‘pray’	[le**ɸr**ɛ́:ɣjɛ́:ɾe]	‘the prayers’
pj	[**pj**ɛ́:**n**a]	‘full river’	[la**ɸj**ɛ́:**n**a]	‘the full river’
pl	[**pl**ak:a]	‘plaque’	[la**ɸl**ák:a]	‘the plaque’
br	[**br**ú:xo]	‘worm’	[i**βr**ú:xi]	‘the worms’
bj	[**bj**áʃ:ixa]	‘chew slowly’	[le**βj**áʃ:ixaθe]	‘the chewings’
bl	[**blát:a**]	‘bug/cockroach	[le**βl**át:e]	‘the bugs’

GORGIA CLUSTERS ARE NOT DEFINED BY SONORITY

Cluster	Sonority Differential	Sonority Profile	Example	Gloss
kt	Δ0	Flat	[íktus]	'stroke'
pt	Δ0	Flat	[lo-pteɾoðat:ilo]	'the pterodactyl'
ps	Δ2	Shallow rise	[ípsilɔn] [lo-psixoanalista]	'Y' 'the psychoanalyst'
tm	Δ3	Steep rise	[la-tmé:si]	'tmesis'
pn	Δ3	Steep rise	[apné:a] [lo-pneumáθixo]	'breathlessness' 'the tire'
tn	Δ3	Steep rise	[étna]	'Etna'
tl	Δ4	Steep rise	[atléta]	'athelete'

THIRD PROCESS: EPENTHESIS

	Epenthesis	Example
(a) Liquid – Stop	no	
(b) Liquid – Affricate	no	
(c) Liquid – Fricative	no	
(d) Liquid – Nasal	no	
(e) Rhotic – Lateral	no	
(f) Nasal – Stop	no	
(g) Nasal – Affricate	no	
(h) Nasal – Fricative	no	
(i) Fricative – Stop	no	
(j) Stop – Fricative	yes	[pis]icologa
(k) Stop – Liquid	yes	[ati/e]las
(l) Stop – Nasal	yes	[ati]mosfera
(m) Stop – Stop	yes	[pe/Ø]terodattilo

PROCESSES AND ITS REJECTS: FINDING CC SETS

	Target/Filtered	**Slag**
Metrical Lengthening	Branching onset	Rime-onset, Bogus cluster
Gorgia	Branching onset	Rime-onset, Bogus cluster
Epenthesis	Bogus cluster	Rime-onset, Branching onset

From comparing these processes, their targets and the slag, one can find the unique sets of CCs. *Metrical lengthening* and *Gorgia* filters the first type: Branching onsets. *Epenthesis* filters the second set, what Harris (1994) calls: Bogus clusters. Finally, comparing the slag of *Metrical Lengthening* and *Gorgia* against that of *Epenthesis* allows one to finds the unique set of rime-onset sequences.

ALTERNATIVE TO SONORITY

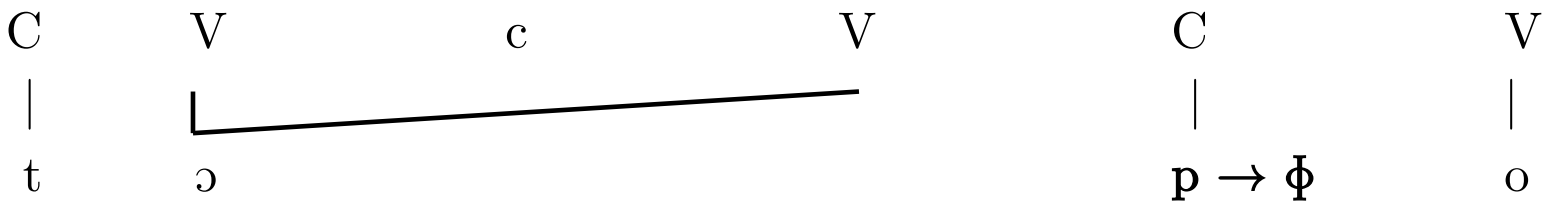
Singleton and Branching onset vs. Geminate

Metrical lengthening and Gorgia

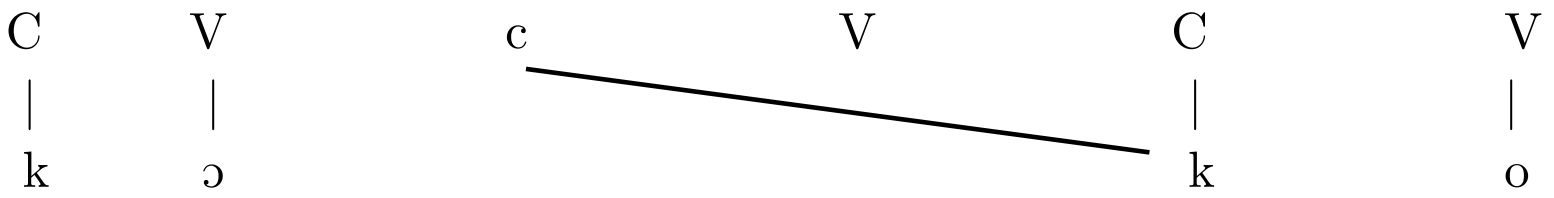
Singleton		**Geminate**	
/tɔ́**p**o/	[untɔ́**:ɸ**o]	/pá**p:**a/	[laɸá**p:**a]
mouse	a mouse	slurry	the slurry

SINGLETONS VS. GEMINATES

(19) Singleton spirantising with metrical lengthening (*tópo* ‘mouse’)

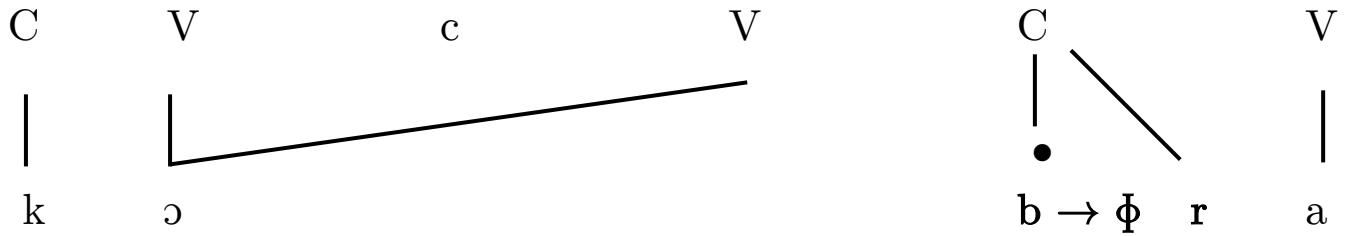


(20) Geminate length resists lenition (*cócco* ‘coconut’)

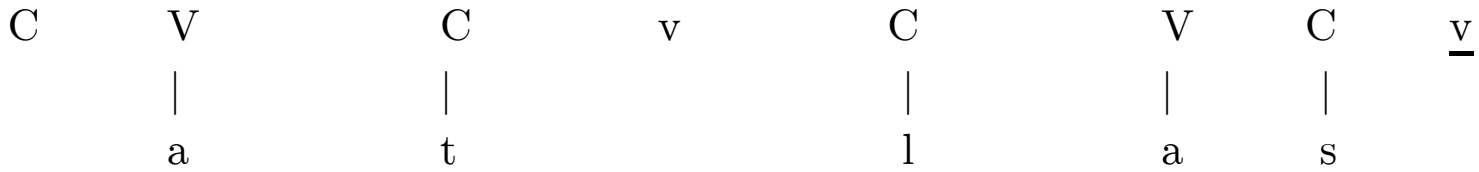


BRANCHING ONSETS ARE LIKE SINGLETONS
BOGUS CLUSTERS ARE LIKE GEMINATES
INTERLUDE THEORY (STERIADE 2008) AND STRICT CV (LOWENSTAMM 2003, BRUN-TRIGAUD & SCHEER 2010)

(21) Compressed Branching onset are short like singleton (*cóbra* 'cobra')



(22) Uncompressed Bogus clusters are 'big' like geminates (*átlas* 'book of maps')



BOGUS CLUSTERS VS. RIME ONSETS

Background: English t-glottaling Harris (1994)

petrol › [pɛ́tɹu] *[pɛ́ʔɹu] ‘petrol’ (cf. [kɛ́ʔəɹɪŋ] ‘kettering’

[bǽʔɹi] ‘battery’.

Though both cluster types have intervening empty V slots

Coda-Onset: ca/rvp/a *carpa* ‘carp’

Bogus cluster: i/pvs/ilon *ipsilon* ‘stroke

Epenthesis: /pvs/icologa › [pis]icologa.

Considering the behaviour of [tʃ] in the same leniting environment that suggests another possible analysis: [mǽtʃːəu] ‘macho’ vs. [mətʃízməu] ‘machismo’. I will leave it mysterious here.

Cluster type by process			Process		
Cluster type	Compressible	Licensed	Metrical Lengthening	Gorgia	Epenthesis
Branching Onset **pr, br, tr, dr, kr, gr, kl, gl**	yes	yes	yes	yes	no
Coda-Onset **rp, rb, rt, rd, rtʃ, rdʒ, rk, rg, rm, rn, rl, lp, lb, lt, ld, ltʃ, ldʒ, lk, lg, lf, lv, rf, rv, lm, ln, mp, mb, nt, nd, ntʃ, ndʒ, ŋk, ŋg, nf, ns, sp, st, sk, fk**	no	yes	no	no	no
Bogus cluster **ps, tl, tn, kt, pt, tm, pn, tn, tl**	no	no	no	no	yes

THANKS