

Pre-Classical Prevarication in Latin Feet: Stratal synchronic structure and discretionary diachronic development

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Latin iambic/cretic shortening: a real feature of early spoken Latin

- PrWd iambic shortening: LH → (́LL)
 - *homo*: → (hó.mo) 'human'
 - *potest* → (pó.těst) 'can'
- 'Word-initial' iambic shortening: LH... → (́LL)...)
 - *vere.ba.mini*: → (ve.re).(bá:).mi.{ni:} 'you (pl.) were afraid'
 - *volupta.tem* → (vo.lŭp).(tá:).{tem} 'desire (acc.)'
- Cretic shortening: HLH → (H́)(LL)
 - *di.cito*: → (di:)(ci.to) 'say (fut. impve)'
 - *di.xerunt* → (di:k).(se.rŭnt) 'they said'
- Cross-word iambic shortening: L#H... → (L#L...)
 - *sed ostendere* → (se.dŏs).(ten).(de.re) = (LL)(H)(LL)
 - *hic est* → (hi.cěst) = (LL)

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- 1) Phrasal data (cross-word iambic shortening) not considered

- 2) Incorrect shortening and stresses predicted in:

- (i) LHσ *de.(cŏ:).re.s*
†(*dé.cŏ*).re.s
- (ii) (ii) word-initial LH... without immediately following primary stress
fi.(dè:).li.(tá:).tem
†(*fi.de*).(li.ta).tem
or †*fi.(de.li).(tá:).tem*

Problems with previous analyses

- Mester (1994) & Prince & Smolensky (1993/ 2004)
- IS through avoidance of:
 - degenerate/unparsed L (FTBIN/PARSE-σ)
 - (LH) foot/unparsed H (WSP)

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- 3) P&S's unusual NONF = No head (σ, FT) of PrWd is final in PrWd

- predicts unattested consistent antepenultimate stress systems (Jacobs 2000, 2003)
- Reverting to usual NONF constraint...
 - Bermúdez-Otero & McMahon (2006: 399): 'The final syllable of a prosodic word must not be footed'
 - ...causes new problems
 - (i) †(H)(́LL) and †(H)(H́)
 - (ii) Why is (́LH-) better than †L(H́)?

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4) Iambic shortening is very real

Problems with previous analyses

- Long philological tradition
 - Müller (1869), Lindsay (1894), Questa (1967, 2007), Drexler (1969), Fortson (2008), etc. etc.
- Universal final shortening still not for many centuries

Jacobs (2000, 2003)

- Word-final iambic shortening not real
- Just final shortening

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Cretic shortening HLH → (H́)(LH-)

- Crucially, foot formation to achieve more parsing did not result in primary stress on 2nd syllable, despite being head of rightmost foot in the word: (H́)(LL)
- Stress(es) assigned at word level respected at phrase level
- MAX-FootHead (Bermúdez-Otero & McMahon 2006: 399)
The output correspondent of an input foot head must be a foot head.

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Cretic shortening: word level

- High-ranking NONF and FTBIN create parse (H́)LH at word level

/HLH/ <i>dí:cito:</i>	FTBIN	NONF	H/R	*(HL)	MAX-μ	PARSE-σ	WSP
(H́)(L)H	*!		*!			*	*
(H́)L(H́)		*!	*!			*	
(H́)(L)H		*!	*!				*
(H́)(L)H		*!					*
(H́)(L)H-		*!			*!		
(H́)LH				*!		*	*
^σ (H́)LH						**	*

Cretic shortening: phrase level

- PARSE-σ, WSP » NONF, H/R at phrase level
 - No extrametricality is strong clue to phrase level: cf. cross-word scansion, elision, phrasal iambic shortening

(H́)LH <i>(d́f)cito:</i>	MAX-FTHD	FTBIN	*(HL)	PARSE-σ	WSP	NONF	H/R	MAX-μ	SWP
(H)(L)H	*!				*	*			
(H́)LH			*!	*	*				
(H́)LH				**!	*!				
(H́)(L)H					*!	*	*		
(H́)L(H́)				*!		*	*		
(H́-L)(H)						*	*	*	*!
^σ (H́)(L)H-						*	*	*	

PrWd iambic shortening: word level

- Word-level constraint ranking gives (L̇)H
 - Not (L̇H) because
 - WSP » PARSE-σ (assured by L(Ḣ)σ, not †(L̇H)σ, e.g. *amīxus*) would give †L(Ḣ)
 - unless NONF » FTBIN, ensuring a parse (L̇)H

/LH/	NONF	FTBIN	MAX-μ	WSP	PARSE-σ
<i>lego:</i>					
(L̇)(Ḣ)	*!	*			
(L̇H-)	*!		*		
(L̇H)	*!			*	
L(Ḣ)	*!				*
☞ (L̇)H		*		*	*

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PrWd iambic shortening: phrase level

- MAX-FTHD & PARSE-σ » MAX-μ prevent L(Ḣ)
- FTBIN » NONF prevents (L̇)H
- FTBIN » MAX-μ prevents (L̇)(Ḣ)
- WSP » MAX-μ prevents (L̇H)
- WSP » NONF » MAX-μ prevents final-syllable lightening
 - LH → LL (*lego*), (*tenet*), (*legunt*), (*bene*), but HH (*can*)(*to:*), (*cal*)(*ca:r*)

(L̇)H	MAX-FTHD	FTBIN	PARSE-σ	WSP	NONF	MAX-μ
<i>(lē)go:</i>						
(L̇)(Ḣ)	*!	*			*	
L(Ḣ)	*!		*		*	
(L̇)H		*!			*	
(L̇H)		*!	*	*		
(L̇H)				*!	*	
☞ (L̇H-)					*	*

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Word-initial iambic shortening:

- Pre-stress LH in a word of 4 or more syllables
 - Long V: (*āmi*ː)(*citi*)*am*, (*vère*ː)(*bá*ː)*mini*
 - Closed syllable: (*vòlūp*)(*tá*ː)*tem*
- BUT not non-pre-stress
 - LHσ *a*(*mí*ː)*cam*, LHL... *fī*(*dè*ː)*lī*(*tá*ː)*tem*, *be*(*nīg*)*nī*(*tá*ː)*tem*
- CLASH!

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/LHHH/	NONF	FTBIN	CLASH	*(HL)	MAX-μ	WSP	PARSE-σ
<i>voluptatem</i>							
L(Ḣ)(Ḣ)H			*!			*	**
(L̇H-)(Ḣ)H					*!	*	*
LH(Ḣ)H						**	***!
☞ (L̇H)(Ḣ)H						**	*
/LHH/	NONF	FTBIN	CLASH	*(HL)	MAX-μ	WSP	PARSE-σ
<i>amicam</i>							
(L̇H-)H					*!	*	*
(L̇H)H						***!	*
☞ L(Ḣ)H						*	**
/LHLHH/	NONF	FTBIN	CLASH	*(HL)	MAX-μ	WSP	PARSE-σ
<i>fidelitatem</i>							
L(ḢL)(Ḣ)H				*!		*	**
(L̇H-)L(Ḣ)H					*!	*	**
(L̇H)L(Ḣ)H						***!	**
☞ L(Ḣ)L(Ḣ)H						*	***

(LH)(H)H (vólup)(tá)tem	MAX- FTHD	FTBIN	*(HL)	PARSE-σ	WSP	NONF	CLASH	MAX-μ
L(H)(H)(H)	*!			*		*	*	
(LH)(H)(H)					*!	*		
^σ (LH-)(H)(H)						*		*
L(H)H a(mí)cam	MAX- FTHD	FTBIN	*(HL)	PARSE-σ	WSP	NONF	CLASH	MAX-μ
(LH)(H)	*!				*	*		
(LH-)(H)	*!					*		*
L(H-H-)				*		*		**!
^σ L(H)(H)				*		*		
L(H)L(H)H fí(dē)lī(tá)tem	MAX- FTHD	FTBIN	*(HL)	PARSE-σ	WSP	NONF	CLASH	MAX-μ
(LH)L(H)(H)	*!			*	*	*		
(LH-)L(H)(H)	*!			*		*		*
L(HL)(H)(H)			*!	*		*		
L(H)L(H-H-)				**		*		**!
^σ L(H)L(H)(H)				**		*		

Cross-word iambic shortening:
L#H → (L#H-)

- Must be at phrase level
- Cross-word iambic shortening demonstrates that FTBIN » MAX-FTHD at phrase level
 - Because word-level stresses are destressed to avoid monomoraic stressed syllables, esp. after resyllabification

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/H/#HLL/ et abducere	NONF	FTBIN	CLASH	*(HL)	MAX-μ	WSP	PARSE-σ
(H)H(H)LL			*!				**
(H)H-(H)LL					*!		***
^σ (H)H(H)LL						*	***
/H/#HHHH/ quod accepisti	NONF	FTBIN	CLASH	*(HL)	MAX-μ	WSP	PARSE-σ
(H)H(H)H(H)H			**!			*	*
(H)H(H)H-(H)H					*!	*	**
^σ (H)H(H)H(H)H						**	**
/H/#HL#/LLHH/ et ille chlamydat	NONF	FTBIN	CLASH	*(HL)	MAX-μ	WSP	PARSE-σ
(H)H(L)H(L)H(H)H	*!				*	*	*
(H)H(L-)H(L)H(H)H		*!			*!	*	**
^σ (H)H(H)LH(L)H(H)H						*	**
/H/#H/ quid est?	NONF	FTBIN	CLASH	*(HL)	MAX-μ	WSP	PARSE-σ
(H)H(H-)	*				*!		
^σ (H)H(H)	*						

LHLL é.tab.dú.ce.re	FTBIN	MAX- FTHD	*(HL)	PARSE-σ	WSP	NONF	CLASH	MAX-μ
L(H)(H)(LL)		*!		*		*	*	
(LH)(H)(LL)					*!	*		
^σ (LH-)(H)(LL)						*		*
LHHHH quó.dác.ce.pís.ti	FTBIN	MAX- FTHD	*(HL)	PARSE-σ	WSP	NONF	CLASH	MAX-μ
(L)H(H)H(H)H	*!			*	*	*	*	
L(H)H(H)H(H)H		*		*!		*		
(LH)H(H)H(H)H		*			*!	*		
^σ (LH-)(H)H(H)H		*				*		*
LHLLLHH é.tí.le.chlà.my.dás.tus	FTBIN	MAX- FTHD	*(HL)	PARSE-σ	WSP	NONF	CLASH	MAX-μ
(L)H(L)H(L)H(H)H	*!			*		*	*	
L(H)L(L)H(H)H		*		**!		*		
(LH)L(L)H(H)H		*		*	*!	*		
^σ (LH-)L(L)H(H)H		*		*		*		*
LH quí.dést	FTBIN	MAX- FTHD	*(HL)	PARSE-σ	WSP	NONF	CLASH	MAX-μ
(L)H	*!					*	*	
L(H)		*		*!		*		
^σ (L)H		*			*!	*		

Word- and phrase-level rankings

- Word-level ranking
 - NONF, H/R » FTBIN, CLASH, *(HL), MAX- μ » WSP » PARSE- σ
 - *(lé)go;*, *(dí:)cito;*, *(vòlup)(tá:)tem*
 - *a(mí:)cam*, *fi(dè:)li(tá:)tem*
- Phrase-level ranking
 - FTBIN » MAX-FTHD, *(HL) » PARSE- σ , WSP » NONF, CLASH, MAX- μ , H/R, SWP
 - *(lég@)*, *(dí:)cito@*, *(vòlŭp)(tá:)(tem)*
 - *a(mí:)(cam)*, *fi(dè:)li(tá:)(tem)*

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Phonological phrases

- Shortening sensitive not only to stratal computational procedure but also prosodic representational structure
 - Distinction discussed by Bermúdez-Otero & Luís (2009) with regard to European Portuguese
- Shortening within phonological phrases (ϕ), which were not heads of their intonational phrases (ι) in feet which did not bear the main stress (non-heads) of the phonological phrase

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Selkirk (2011): Match Theory

- Phonological phrases formed in an isomorphic fashion to lexical (but not functional) phrasal projections, encompassing NPs, VPs, and APs
- Purely phonological markedness constraints may result in non-isomorphism if ranked above syntax-phonology mapping faithfulness constraints
- Match(XP, ϕ)
 - The left and right edges of a constituent of type XP in the input syntactic representation must correspond to the left and right edges of a constituent ϕ in the output phonological representation
 - + Intonational phrases (ι) correspond to syntactic clauses

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ϕ -internal analysis of IS explains philological literature's findings that:

- 'Close syntactic connection' between the two words involved in cross-word iambic shortening (e.g. Questa 1973: 496-7, Soubiran 1988: 247) – ϕ -internal
- Shortening never occurred when L was followed by a 'full word boundary', e.g. end of a clause (e.g. Devine & Stephens 1980: 149) – ϕ -internal
- Shortening never occurred when H was followed by 'full word boundary' – not in head (final by default) ϕ of ι
- Shortening never occurred in focused elements – not in head (focused) ϕ of ι
- Shortening in a foot which is the whole utterance?
 - [(*qui.děst*)] 'what is it?' (Pl. *Cas.* 849)
 - Non-prominent phrase: 'whassu(p)?' – can reduce

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Plautus *Trinummus* 964

- *id aurum quod acce:pisti: a: Charmide:*
 - ‘this money that you received from Charmides’
- *id* [*aurum*]_{NP} *quod* [*acce:pisti:*]_{VP} *a:* [*Charmide*]_{NP}
- Match: *id (aurum) quod (acce:pisti:) a: (Charmide)*
- Markedness: Incorporate stray material:
 - Resyllabification and elision provide evidence
 - [i.d_au.rum]_φ [quo.d_ac.ce:.pis.ti:~a:]_φ [Char.mide]_φ
- Phrasal Feet: [L(Ĥ)(H)] [(LH-)(H)(Ĥ)(H)] [(Ĥ)(LL)]_φ
 - (*quo.d*āc.ce:.pis.ti:~a:)

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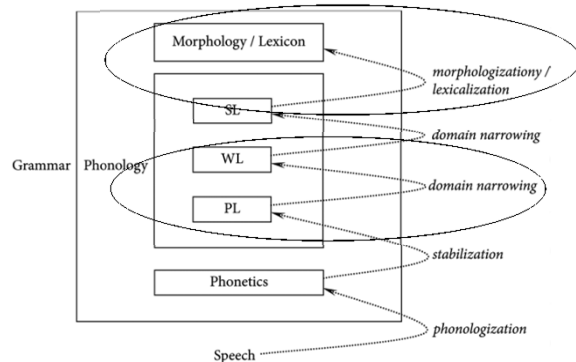
Diachrony (see Fortson 2008: 177)

- Early Latin verse (e.g. Plautus): phrase-level
- Early ‘popular’ verse inscriptions: word-level
 - Limited to single words of iambic shape, not polysyllables or word groups
- Later republican/imperial verse: word-level with further restrictions
 - Only shortening of long V, not closed syllable
- Imperial: lexicalised
 - Shortened forms continued as standard in classical Latin: *bene* ‘well’, *modo* ‘only’, *ego* ‘I’, *sibi* ‘him (dat.)’

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Life-cycle of a phonological rule

Bermúdez-Otero & Trousdale (2012: 700), Bermúdez-Otero (2014)



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Summary analysis

- Early Latin iambic shortening was at the phrase level in stratal synchronic computation
 - due to pressure towards exhaustive parsing
 - remaining faithful to structure formed at word level
 - occurring across word boundaries
- and operating in phonological phrases (φ)
 - targeting non-head feet within non-head φ
 - so sensitive to focus marking and syntactic structure
- following expected lifecycle
 - phrase to word level, then lexicalised in common words

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References

- Bermúdez Otero, Ricardo. (2006). 'Phonological change in Optimality Theory', in Keith Brown (ed.), *Encyclopedia of Language and Linguistics*, 2nd ed. Oxford: Elsevier, 9: 497-505.
- Bermúdez-Otero, Ricardo & Luis, Ana R. (2009). 'Cyclic domains and prosodic spans in the phonology of European Portuguese functional morphs'. Paper presented at OCP6, Edinburgh, 24 January 2009.
- Drexler, Hans. (1969). *Die Iamben Kürzung*. Hildesheim: Olms.
- Fortson IV, Benjamin W. (2008). *Language and Rhythm in Plautus*. Berlin/New York: de Gruyter.
- Jacobs, Haïke. (2003). 'The emergence of quantity-sensitivity in Latin: secondary stress, iambic shortening, and theoretical implications for "mixed" stress systems', in D. Eric Holt (ed.), *Optimality Theory and Language Change*. Dordrecht: Kluwer, 229-247.
- Lindsay, Wallace M. (1894). *The Latin Language: an historical account of Latin sounds, stems, and flexions*. Oxford: Clarendon Press.
- Mester, R. Armin. (1994). 'The quantitative trochee in Latin', *Natural Language and Linguistic Theory* 12: 1-61.
- Müller, C. F. W. (1869). *Plautinische Prosodie*. Berlin: Weidmann.
- Prince, Alan S. & Paul Smolensky. ((1993) 2004). *Optimality Theory: constraint interaction in generative grammar*. Malden, Mass.; Oxford: Blackwell. (Rutgers Optimality Archive 537. Rutgers University Center for Cognitive Science Technical Report 2).
- Questa, Cesare. (2007). *La metrica di Plauto e Terenzio*. Urbino: QuattroVenti.
- Selkirk, Elisabeth. (2011). 'The syntax-phonology interface', in John Goldsmith, Jason Riggle & Alan Yu (eds.), *The Handbook of Phonological Theory*, 2nd ed. Oxford: Blackwell, 435-484.