

Paragoge as an indicator of language contact

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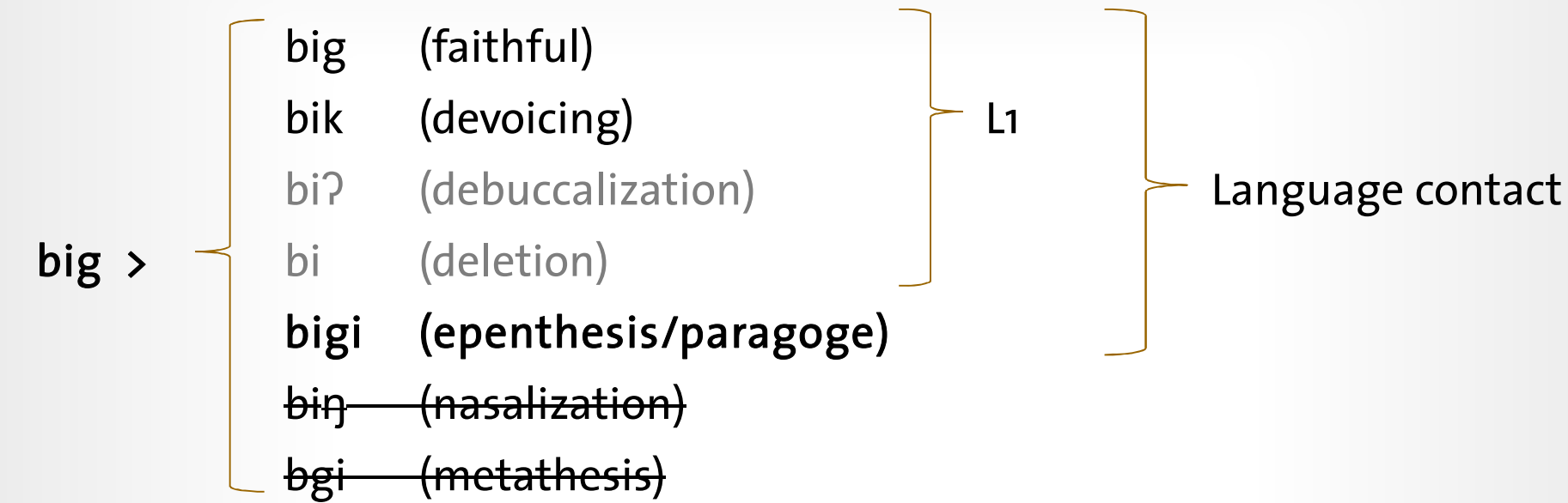
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Summary

- Word-final vowel epenthesis (paragoge) is vanishingly rare in L1 transmission, but robustly attested in all types of language contact.
- Paragoge is also one of the few sound changes caused by increased articulatory effort. Most sound changes result from reduced or compressed articulatory gestures.
- I propose that sound changes like paragoge indicate language contact.

Asymmetry

(1) Final C repairs: Too many solutions? (Steriade 2001; Bybee 2001)



	L1 transmission	Language contact
Weakening: /big/ > /bik/	✓	✓
Paragoge: /big/ > bigi/		✓

Data

- (3) L1: Paragoge is often reported to be missing or rare
- Synchronically (Sanders 1979)
 - Diachronically (Campbell 1999: 35)
 - As a child error (Demuth *et al.* 2006)
- (4) Language contact: Paragoge is very common
- Creoles (Plag & Uffman 2000; Holm 2000: 152)
 - English *bed* > Sranan *bedi*
 - Portuguese *doutor* > São Tomé *dotolo* 'doctor'
 - Loanwords (Uffman 2007; Haspelmath & Tadmor 2009)
 - English *class* > Yoruba [kiláàsi]
 - Arabic *nūr* > Swahili [nuru] 'light'
 - Malay *burung* > Malagasy [vorona] 'bird'
 - Second language acquisition (Tarone 1980; Eckman 1981)
 - English *sack* → (L1 Korean) [sækə]
 - English *blanket* → (L1 Portuguese) [bæŋkətə]

Previous proposals

- (5) L2 studies: Orthographic input favours paragoge (Young-Scholten *et al.* 1999)
- Faithfulness to orthography blocks deletion in L2 acquisition, unlike L1.
 - Cannot account for the existence of paragoge in creoles.
- (6) L1 phonology: Paragoge is impossible due to p-map (Steriade 2001)
- Perceptual error only allows weakening (e.g. big > bik, or bik > bi?).
 - Cannot account for the existence of paragoge in language contact.
- (7) L2 studies: Underlying vs. surface (Eckman 1981: 214; cf. Singh & Muysken 1995)
- Surface constraints conflict with underlying forms in L2 acquisition, but not L1.
 - Cannot account for L1 Russian (cf. Turkish, German, Dutch, etc.) e.g. *след* /slied/ 'track' → [sliet] NOM.SG. but [slied-a] GEN.SG.
- (8) Loanword studies: Faithfulness always favours epenthesis
- Cannot account for the absence/rarity of paragoge in L1 transmission, but ...
 - Preservation Principle*: Segmental contrasts are maximally preserved (Paradis & LaCharité 1997; cf. Eckman 1981: 213).
 - But segmental contrasts are very often lost (Singh & Muysken 1995: 161).
 - Featural faithfulness*: V epenthesis is more featurally faithful than C deletion because vowels have fewer distinctive features (Uffman 2007: 206).
 - But there is evidence that both deletion and epenthesis proceed gradually.

Approach: Seek a parallel phonetic asymmetry

- (9) How can we explain this asymmetry?
- Universal constraints on grammar can't explain an L1 vs. L2 asymmetry.
 - Can we find a parallel asymmetry in L1 vs. L2 synchronic phonetics?
- (10) Deletion as a sound change (Bybee 2001: 193, 204)
- Phonetic path*: big > bik (devoicing) > bi? (debuccalization) > bi∅ (deletion).
 - Perception*: VC transition cues are poor compared to CV or C release burst.
 - Production*: Articulatory gestures weaken over the course of the syllable.
- (11) Epenthesis as a sound change (cf. Davidson 2007; Boersma 2009)
- Phonetic path*: big > bigə (C release) > bigə (default V) > bigi (V assimilation).
 - Production*: Unfamiliar sequences: Articulatory gestures spaced apart.
 - Perception*: Resulting release burst (gə) can be interpreted as reduced V.
- (12) Articulatory effort and sound change
- Reduced effort* = Reduced or compressed articulatory gestures (Bybee 2001).
 - Devoicing (big > bik) = Compressed gestures: Voicing stops before final C.
 - Debuccalization (bik > bi?) = Reduced oral gesture does not reach target.
 - Greater effort* = Stronger or spaced-apart articulatory gestures.
 - Paragoge (bigə > bigə) = Spaced-apart gestures > C release burst
 - Schwa replacement (bigə > bigi) = Stronger gesture (more extreme target)

Proposal

Sound changes resulting from increased articulatory effort (e.g. paragoge) indicate language contact unless motivated by strong prosodic/word positions.

Motivating articulatory effort

- (13) When do L1 speakers increase articulatory effort?
- Strong prosodic/word positions* (Lavoie 2001) e.g. gemination/lengthening, glide hardening, V diphthongization.
 - Hypercorrection*: Singaporean English *absence*[t] (Deterding 2007), American English *you and I, athelete, nucular*.
 - Prediction*: Paragoge should also be possible in dialect contact.
- (14) Why do L2 speakers increase articulatory effort?
- Input*: Effortful tokens more frequent in foreigner talk (Hatch 1983: 155).
 - L1/L2 conflict*: Attraction to L1 categories (cf. Flege 1980; Eckman 1981).
 - Intrinsic effort*: L2 speech is intrinsically effortful due to unfamiliarity.

Alternative accounts

Potential phonetic asymmetries	Production	Perception
L1 vs. L2: Linguistic experience	My proposal	Rejected
Child vs. adult: Biological capabilities	Rejected	?

- (16) Perception: L1 vs. L2 linguistic experience
- How do listeners interpret a release burst (bigə)?
 - L1 contains final Cs => Listeners expect: **bi**, bigə, big
 - L1 lacks these final Cs => Listeners expect: **bi**, bigə
 - Experienced perception cannot rule out paragoge in L1 transmission.
- (17) Production: Child vs. adult biological capabilities
- Epenthesis is much less common than deletion (Demuth *et al.* 2006)
 - Deletion is OK*: Children self-monitor less effectively (Jaeger 2005: 82)
 - Paragoge is blocked*: Early monosyllabic stage (Fikkert 1994)
 - Don't repair*: Onsets require more coordination than codas (jaw + tongue, C + V: McAllister 2009)
 - But child-specific errors ≠ sound change (Foulkes & Vihman, in press)
 - Consonant harmony, stressed syllable deletion, fricative → stop
 - These errors tend to disappear fairly early (< 5 yrs)

Is paragoge always missing in non-contact?

- (18) Historical cases where there is independent evidence for contact
- Creoloid*: Brazilian Portuguese (Major 1986: 55; cf. Holm 2004).
 - Colonization*: Sardinian (Lüdtke 1988: 344–5; cf. Dyson & Rowland 2007).
 - Celtic influence*: Old Spanish (Honsa 1962; cf. Penny 2002).
 - Heavy areal contact*: Lauje, Talaud, Leti (Austronesian: Himmelmann 1997; Sneddon 1993; Blevins & Garrett 1998: 542ff; cf. Klamer 2002; Bakker *et al.* 2011).
 - Conquest*: South Dravidian (Singh & Muysken 1995: fn.6; Caldwell 1856: 342ff).
 - Trade*: Arandic (Pama-Nyungan: Campbell 1999: 37; cf. Bower & Atkinson 2012: 838).
- (19) Other historical cases
- Angutimri (Smith 1984) — *More information needed*.
 - Aztec (Singh & Muysken 1995: fn.6) — *Morphological*.
 - New Mexico Spanish (Bills & Vigil 2008: 15, 149) — *Contact? From Old Spanish?*
 - Italian letter names, e.g. *elle* (Lüdtke 1988: 345) — *Frequently hyperarticulated?*
- Languages with strong final C release**
- German (Blevins 2004: 98), French (Peperkamp *et al.* 2008)
 - Prediction*: These should only be possible in special circumstances, e.g.
 - Originally onsets*: CVCV > CVCə > CVCə
 - Dialect contact*: Compare with hypercorrection and decreolization.

References

Avram, Andrei A. [2011]. The epenthetic and paragoge vowels of Rijn: Internal development or substrate influence? In *Languages in contact 2009*, ed. by Zdzisław Wąsik, 7–23. Wrocław: Wyższa Szkoła Filologiczna we Wrocławiu.

Bakker, Peter, Aymeric Daval-Markussen, Mikael Parkvall, & Ingo Plag [2011]. Creoles are typologically distinct from non-creoles. *Journal of Pidgin and Creole Languages* 26(1): 51–42.

Bickerton, Derek [1984]. The language bioprogram hypothesis. *Behavioral and Brain Sciences* 7: 173–188.

Billy, Kenneth M. [1983]. How the "older heads" talk: A Jamaican Maroon spirit possession language and its relationship to the creoles of Suriname and Sierra Leone. *Nieuwe West-Indische Gids (New West Indian Guide)* 57: 37–88.

Bills, Garland D. & Neddy A. Vigil [2008]. *The Spanish language of New Mexico and southern Colorado: A linguistic atlas*. Albuquerque: University of New Mexico.

Blevins, Juliette [2004]. *Evolutionary phonology: The emergence of sound patterns*. Cambridge: Cambridge University Press.

Blevins, Juliette & Andrew Garrett [1998]. The origins of consonant-vowel metathesis. *Language* 74(3): 508–526.

Boersma, Paul [2009]. Cue constraints and their interactions in phonological perception and production. In *Phonology in Perception*, ed. by Paul Boersma & Silke Hamann, 55–109. Berlin: Mouton de Gruyter.

Bower, Claire & Quentin Admon [2012]. Computational phylogenetics and the internal structure of Pama-Nyungan. *Language* 88(4): 877–845.

Bybee, Joan L. [2001]. *Phonology and Language Use*. Cambridge: Cambridge University Press.

Caldwell, R. [1856]. *A comparative grammar of the Dravidian or South-Indian family of languages*. London: Harrison.

Campbell, Lytle [1999]. *Historical linguistics: An introduction*. Cambridge, MA: MIT Press.

Davidson, Lisa [2007]. The relationship between the perception of non-native phonotactics and loanword adaptation. *Phonology* 24: 261–286.

Demuth, Katherine, Jennifer Culbertson, & Jennifer Alter [2006]. Word-minimality, epenthesis and coda licensing in the early acquisition of English. *Language and Speech* 49(1): 137–174.

Deterding, David [2007]. *Singapore English*. Edinburgh: Edinburgh University Press.

Dyson, Stephen L. & Junior Rowland, Robert L. [2007]. *Archaeology and history in Sardinia from the Stone Age to the Middle Ages: Shepherds, sailors, & conquerors*. Philadelphia, PA: University of Pennsylvania Museum of Archaeology and Anthropology.

Eckman, Fred R. [1981]. On the naturalness of interlanguage phonological rules. *Language Learning* 31: 195–216.

Fikkert, Paula [1994]. *On the acquisition of prosodic structure*. The Hague: Holland Institute of Generative Linguistics.

Flege, James Emil [1980]. Phonetic approximation in second language acquisition. *Language Learning* 30(1): 117.

Foulkes, Paul & Marilyn M. Vihman (in press). Language acquisition and phonological change. In *The Handbook of Historical Phonology*, ed. by Cecilia Ode & Wim Stokhof. Oxford: Oxford University Press.

Haspelmath, Martin & Uri Tadmor, eds. [2009]. *World Loanword Database*. Munich: Max Planck Digital Library. <http://worldwideloanwords.org/vocabularies/> on 24 Nov 2012.

Hatch, Evelyn M. [1983]. *Psycholinguistics: A Second Language Perspective*. Rowley, MA: Newbury House.

Himmelmann, Nikolaus P. [1997]. The paragoge vowel in Lauje (Tomini-Tolitoli). *Phonology or morphosyntax*. In *Proceedings of the Seventh International Conference on Austronesian Linguistics*, Leiden, 22–27 August 1996, ed. by Cecilia Ode & Wim Stokhof, 81–103. Amsterdam: Atlanta, GA: Rodopi.

Holm, John [2004]. *Languages in contact: The partial restructuring of vernaculars*. Cambridge, UK: Cambridge University Press.

Holm, John A. [1988]. *Pidgins and Creoles, Volume 1: Theory and structure*. Cambridge, UK: Cambridge University Press.

Holm, John A. [2000]. *An introduction to Pidgins and Creoles*. Cambridge Textbooks in Linguistics. Cambridge: Cambridge University Press.

Honsa, Vladimír [1962]. Old Spanish paragoge -e. *Hispania* 45(2): 242–246.

Jaeger, Jeni L. [2005]. *Kids' slips: what young children's slips of the tongue reveal about language development*. Mahwah, NJ: Lawrence Erlbaum.

Klamer, Marian [2002]. Typical features of Austronesian languages in loanword/Indonesian. *Oceanic Linguistics* 41(1): 363–383.

Klein, Thomas B. [2006]. Creole phonology typology: Phoneme inventory size, vowel quality distinctions and stop consonant series. In *The structure of creole words: Segmental, syllabic and morphological aspects*, ed. by Parth Bhatt & Ingo Plag, 3–21. Tübingen: Niemeyer.

Klein, Thomas B. [2011]. Typology of creole phonology: Phoneme inventories and syllable templates. *Journal of Pidgin and Creole Languages* 26(1): 155–193.

Lavoie, Lisa M. [2001]. *Consonant strength: Phonological patterns and phonetic manifestations*. New York: London: Garland.

Lüdtke, Helmut [1988]. The importance of diacotomy for a new look at Romance linguistic history. In *Historical dialectology: Regional and social*, ed. by Jack Fisiak, 327–347. Berlin: New York: Mouton de Gruyter.

Major, Roy C. [1986]. Paragoge and degree of foreign accent in Brazilian English. *Second Language Research* 2: 53–71.

McAllister, Tara [2009]. *The articulatory basis of positional asymmetries in phonological acquisition*. Ph.D. dissertation, MIT.

McWhorter, John H. [2001]. The world's simplest grammars are creole grammars. *Linguistic Typology* 5(2–3): 125–166.

McWhorter, John H. [2011]. *Linguistic simplicity and complexity: Why do languages underspecify?* Boston, MA: Berlin: Mouton de Gruyter.

Ng, E-Ching [2011a]. Vowel unrounding in French creoles. Paper presented at SPLC (Winter), Pittsburgh, 7–8 Jan.

Ng, E-Ching [2011b]. Creole exceptionalism via transmission: The weak-to-strong harmony gap. Paper presented at SPLC (Summer), Accra, 2–6 Aug.

Paradis, Carole & Darlene LaCharité [1997]. Preservation and minimality in loanword adaptation. *Journal of Linguistics* 33(2): 379–430.

Penny, Ralph [2002]. *A history of the Spanish language*. Cambridge, UK: Cambridge University Press.

Peperkamp, Sharon, Inga Vendelin, & Kimihiro Nakamura [2008]. On the perceptual origin of loanword adaptations: Experimental evidence from Japanese. *Phonology* 25: 129–164.

Plag, Ingo & Christian Uffmann [2000]. *Phonological restructuring in creole: The development of paragoge in Sranan*. In *Degrees of restructuring in creole languages*, ed. by Edgar Werner Schneider, 309–336. Amsterdam, Philadelphia: John Benjamins.

Sanders, Gerald [1979]. Equational rules and rule function in phonology. In *Current approaches in phonological theory*, ed. by D. Dinnsen. Bloomington, IN: Indiana University Press.

Singh, Rajendra & Pieter Muysken [1995]. Wanted: A debate in pidgin/creole phonology. *Journal of Pidgin and Creole Languages* 10(1): 157–169.

Smith, Norval S. H. [1984]. All change on the CV-tier: Developments in the history of Awngim and Angaitse. In *Linguistics in the Netherlands 1984*, ed. by H. Bennis & W. L. S. v. L. Kroeber, 169–178. Dordrecht: Foris.

Sneddon, James Neil [1993]. The drift towards final open open syllables in Sulawesi languages. *Oceanic Linguistics* 32(1): 1–44.

Sterade, Daniel [2001]. The phonology of perceptibility effects: The p-map and its consequences for constraint organization. Ms., UCLA.

Tarone, Elaine [1980]. Some influences on the syllable structure of interlanguage phonology. *IRAL: International Review of Applied Linguistics in Language Teaching* 18: 139–152.

Uffman, Christian [2007]. *Vowel epenthesis in loanword adaptation*. Tübingen: Niemeyer.

Uffman, Christian [2009]. Creole consonant inventories: How simple? In *Simplicity and complexity in creoles and pidgins*, ed. by Nicholas Faras & Thomas B. Klein, 81–106. London: Battlebridge.

Young-Scholten, M., M. Aikta, & N. Cross [1999]. Focus on form in phonology: Orthographic exposure as a promoter of epenthesis in *Pagwats* and pedagogy. ed. by P. Robinson & J. O. Jungheim. Aoyama Gakuin University.