

Word-final vowel epenthesis: An L2 sound change?

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1. Overview

- (1) **The controversy: simplicity**
 - a. A creole is a (i) massively restructured (ii) L2 that has become an L1.
 - b. Are creoles simple languages?
 - i. Bioprogram: child L1 acquisition → simple grammars (Bickerton 1984)
 - Discredited: bilingual creolisation in Hawaii (Roberts 2000; Siegel 2006; cf. Mufwene 1990)
 - ii. Creole prototype: adult L2 acquisition → simple grammars (McWhorter 1998)
 - Discredited: average inventories, syllable templates (Klein 2011; cf. Mufwene *et al.* 2017)
- (2) **My hypothesis: transmission bias**
 - a. Creoles are ~~simple~~ different.
 - b. The differences are ~~synchronic~~ diachronic.
 - c. Missing sound changes can be traced to ~~child L1 learners' cognitive biases~~ adult L2 learners' phonetic biases.
- (3) **Today's missing sound change: paragoge (word-final epenthesis)**

Word-final consonant repairs	Language contact	L1 transmission
a. Vowel epenthesis • big > big _i	✓	rare?
b. Consonant lenition • big > big _k > big _ʔ > bi	✓	✓

2. Data

- (4) **Examples of paragoge (refs. in Ng 2015: 115ff; Plag 2009: 131; Hammarberg 1994)**
 - a. **Pidgins and creoles**

English <i>walk</i> > Jamaican Maroon Spirit Language <i>wak<u>a</u></i>	copy vowel
English <i>school</i> > Solomon Islands Pidgin <i>sukul<u>u</u></i>	copy vowel
Portuguese <i>doutor</i> > São Tome <i>dotol<u>o</u></i> 'doctor'	copy vowel
Dutch <i>pompoen</i> > Berbice Dutch Creole <i>pampun<u>a</u></i> 'pumpkin'	
 - b. **Loanword adaptation**

English <i>ice</i> > Japanese [ais <u>u</u>] 'ice cream'	reduced vowel
French <i>avec</i> 'with' > Korean [apɛk' <u>i</u>] 'dating couple'	reduced vowel
Arabic <i>nūr</i> > Swahili [nur <u>u</u>] 'light'	copy vowel
Malay <i>burung</i> > Malagasy [voron <u>a</u>] 'bird'	
 - c. **L2 acquisition**

L1 Mandarin L2 English <i>red</i> [red <u>ə</u>]	placeless vowel
L1 Cantonese L2 English <i>blanket</i> [blæŋkət <u>ə</u>]	placeless vowel
L1 German L2 Swedish <i>familj</i> [fəmilj <u>ə</u>] 'family'	placeless vowel
L1 Brazilian Portuguese L2 English <i>dog</i> [dog <u>i</u>]	

- (5) **Language contact: Paragoge is everywhere (refs. in Ng 2015: 117ff)**
- a. **Atlantic creoles:** Sranan, Saramaccan, Jamaican, Maroon Spirit Language, Krio, Negerhollands, Berbice Dutch Creole, Fa d'Ambu, Papiamentu, Palenquero, Bozal Spanish
 - b. **Atlantic pidgins and early creoles:** early Sranan, early Saramaccan, early Kittitian, early Jamaican, early Krio, early Bajan, Liberian Interior English, Nigerian Pidgin English, Ghanaian Pidgin English
 - c. **Pacific pidgins and creoles:** Solomon Islands Pidgin, Chinese Pidgin English
 - d. **Loanword adaptation:** Japanese (from English, French, Chinese), Korean (from English, French), Cantonese (from English), Hawaiian (from English), Warlpiri (from English); Shona (from English), Fon (from French), Swahili (from Arabic), Kanuri (from Arabic, Hausa), Selayarese (from Indonesian)
 - e. **L2 acquisition of English:** Mandarin, Taiwanese, Cantonese, Korean, Vietnamese, Japanese, Spanish, Brazilian Portuguese
- (6) **L1 transmission: Paragoge is often reported to be missing or rare**
- a. Synchronically (missing: Sanders 1979; cf. Steriade 2001)
 - b. Diachronically (rare: Campbell 1999: 35; Singh & Muysken 1995)
 - c. Child speech (rare: Demuth *et al.* 2006)
- (7) **Historical cases: Paragoge is not missing, but it's not common (refs. in Ng 2015: 123ff)**
- a. Language contact?
 - Brazilian Portuguese, Old Spanish, Vulgar Latin, South Dravidian, Quranic Arabic
 - b. Lacking historical records:
 - Indonesia: Many languages in Sulawesi and Maluku
 - Australia: Anguthimri, Arandic languages, Lardil

3. Previous proposals

3.1 Previous proposals: Paragoge is impossible

- (8) **Claim: Devoicing [bik] is always favoured over epenthesis [bigi]**
- a. Two proposals from early Optimality Theory
 - Deleting a feature is more parsimonious than epenthesising a segment (Lombardi 1995/2001)
 - p-map: Devoiced [bik] is more perceptually similar to /big/ (Steriade 2001/2008)
 - b. So why is paragoge so common in language contact?

3.2 Previous proposals: Paragoge is only possible in language contact

- (9) **Claim: L1/L2 mismatch (Eckman 1981: 214; cf. Singh & Muysken 1995)**
- a. You are learning a language with CVC syllables, e.g. /big/
 - You are only able to pronounce CV syllables, e.g. [bi], [bigi]
 - Mismatch (underlying vs. surface) is not possible in L1 acquisition

- b. Then how do we explain these cases?
- Mismatch within L1: German *Tag* [tak] ‘day’ (cf. Russian, Turkish, SgEng, etc.)
 - Loanword paragoge without mismatch: Korean [kæk] ‘guest’ but *avec* → [apɛkʰi]
 - Language change creates mismatch: Cantonese [lok] vs. Mandarin [lju]

(10) **Claim: Written input is responsible for L2 paragoge (Young-Scholten *et al.* 1999)**

- a. We learn L2 from written input, discouraging deletion and hence favouring epenthesis
- b. Then how do we explain creole paragoge?

3.3 Previous proposals: Paragoge is perfectly natural

(11) **Claim: Faithfulness always favours epenthesis**

- a. Two proposals from loanword studies
- Preservation Principle: Segmental contrasts are maximally preserved (Paradis & LaCharité 1997; cf. Eckman 1981: 213)
 - Featural faithfulness: V epenthesis is better than C deletion (Uffman 2007: 206).
- b. So why is it only common in language contact?

(12) **Claim: Paragoge is a natural phonetic development**

- a. C release burst interpreted as reduced V (Kang 2003; Blevins 2004: 146; Davidson 2007)
- Production: You can pronounce *big* /big/ as [big⁷] or [big^ə]
 - Perception: You might interpret [big^ə] as /big/ or /bigə/
- b. So why is it only common in language contact?

4. My proposal

(13) **The missing sound change in more detail**

Word-final consonant repairs	Language contact	L1 transmission
a. Paragoge • big > big ^ə > bigə > bigi	✓	not common
b. Lenition • big > bik > bi? > bi	✓	✓

(14) **Lenition is a natural phonetic development**

- a. L1 speech is characteristically fluent, fast and casual
- b. Word-final consonants are weakly produced, poorly perceived
- Production: You are likely to pronounce *big* /big/ as [big⁷] or [big^k]
 - Perception: You are likely to interpret those as [bik] > [bi?] > [bi]
- c. These sound changes can also occur in L2 speech when fluent or casual.

- (15) **Paragoge is natural *only* in L2 speech**
- a. Paragoge has two crucial stages, both effortful
 - Production ($\text{big} > \text{big}^\partial$): consonant release burst despite aerodynamic difficulty
 - Perception ($\text{big}^\partial > \text{big}^\partial$): overcompensation for apparent vowel reduction
 - b. Effortful language use is rare among fluent speakers, but common in early L2 acquisition.
- (16) **Production stage ($\text{big} > \text{big}^\partial$) is well attested in L2 acquisition (refs. in Ng 2015: 128ff)**
- a. L2 English: Cantonese, Korean, Portuguese, Mandarin. L2 Swedish: German.
 - b. Exceptions
 - Brazilian Portuguese: [i]-paragoge (L1-like), then schwa-paragoge (advanced learners)
 - Japanese: /u/-paragoge (this vowel is often reduced and devoiced in Japanese)
- (17) **Perception stage ($\text{big}^\partial > \text{big}^\partial$) is also attested**
- a. Korean loanword paragoge is correlated with stop release in source language.
French: always. English: correlated with release rates. (Kang 2003)
 - b. Paragoge judged *more* perceptually similar than devoicing (Kawahara & Garvey 2010)
- (18) **Why isn't paragoge more common in L1 transmission?**
- a. Both stages seem to be possible for L1 speakers:
 - $\text{big} > \text{big}^\partial$: L1 French phonetics require consonant release burst (but chronology);
 - $\text{big}^\partial > \text{big}^\partial$: L1 English perceive as highly similar (but refs. in Ng 2015: 85).
 - b. Proposal: Faced with multiple variants of /big/, e.g. [big⁷], [big^k], [big[∂]],
 - L1 speakers will seldom introduce a *more* effortful one in their own speech,
 - but some L2 speakers will.

5. Factors

- (19) **What encourages paragoge in L2 acquisition?**
- a. Formality \propto paragoge (Lin 2001; cf. Weinberger 1987; Jenkins 2000: 116ff)
 - conversation tasks < read sentences < minimal pairs
 - b. Age \propto paragoge (Young-Scholten *et al.* 1999)
 - 10–12 (5.6%) < 15–18 (16.3%) < 20–25 (20.4%) < 35–55 (32.4%)
- (20) **What discourages paragoge in language contact?**
- Paragoge seems to disappear as speakers grow in fluency.

More paragoge	Less paragoge
<i>Pidgins and creoles</i>	
Maroon Spirit Language	Jamaican
Surinamese creoles (radical)	Bajan, Hawaiian Creole (English-like)
Berbice Dutch Creole	Negerhollands
Older speakers' Solomon Islands Pidgin	Younger speakers' Solomon Islands Pidgin

More paragoge	Less paragoge
<i>Loanword adaptation</i>	
English names in mainland China	English names in Taiwan
English loanwords in standard Japanese	English loanwords in Hawaiian Japanese
<i>World Englishes</i>	
Interior Liberian basilect	Coastal Liberian English

(references in Ng 2015: 128, 143ff)

6. Conclusion

(21) Does paragoge support the transmission bias hypothesis?

Effortful: favoured in relatively early L2 acquisition, disfavoured in L1 transmission.

Word-final consonant repairs	Language contact	L1 transmission
a. Paragoge • big > big ^ə > bigə > bigi	✓	not common
b. Lenition • big > bik > bi? > bi	✓	✓

(22) Implications

- a. Creole studies: new directions for research on creolisation and exceptionalism
- b. Phonology: new micro-typologies linked to conditions of language use
- c. Historical linguistics: a new indicator suggestive of past language contact?

(23) Future directions

- a. Database: Quantify the asymmetry between contact and L1 transmission
- b. Follow up: Exceptions (on both sides of the asymmetry) and L2 acquisition literature
- c. Predictions: Are there other types of fortition or asymmetries which might be relevant?

Thanks to

Steve Anderson, Claire Bower, John Singler, Darya Kavitskaya, Ryan Bennett, Erich Round, Jelena Krivokapić, Gaja Jarosz, Alan Yu, Joe Salmons, the Yale phonetics lab and historical/contact reading group, and many others.

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