Vowel unrounding in French creoles
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(1) Creolization vs. second language acquisition (SLA)
  - Similar outcomes and constraints (Wekker 1996; Winford 2002; Lefebvre, White and Jourdan 2006)
  - So why does French /y/ develop differently in creoles and SLA?
    (Valdman 1984: 228-9; Rochet 1995; Russell Webb & Anderson 2010)

1. The facts

(2) SLA /y/ → /u/
  - American college students produce /y/ and /u/ with completely overlapping F1 and F2, even after a year's immersion in France (Flege & Hillenbrand 1984)

(3a) Creole /y/ → /i/ in all four major groups of French creoles
  - Haitian (Lefebvre 1998: 401)
  - Lesser Antilles: Martinique (Funk 1953: 37), Guadeloupe (Cérol 1991: 59), St. Lucia (Carrington 1984: 18)
  - Indian Ocean: Mauritius (Baker 1972: 43), Réunion (Baggoni 1990: 371), New Caledonia (Ehrhart 1993: 94)
  - Louisiana Creole (Klingler 2003: 143)

(3b) Faithful /y/ does occur in creoles
    ⇒ Simplest explanation is /y/ → /i/, followed by decreolization.
  - Except St. Lucia: “The use of /y/ is limited to a few words in the speech of a minority of speakers, usually in rural areas …” (Carrington 1984: 18)
    ⇒ Probably not decreolization because:
    - St. Lucia’s rural interior is especially inaccessible: mountainous with few roads
    - /y/ doesn’t occur in all etymologically appropriate contexts, only in a few words, e.g. /kɔsyt/ ‘council’, /laritym/ ‘habit’, /ˈ3ys/ ‘just’ (Carrington 1984: 18-19)
    - St. Lucia’s prestige language is English, not French (the British took over in 1814)
    ⇒ Practically universal /y/ → /i/ except for this conservative creole.

2. Previous proposals

(4) French /u/ → /y/ shift was incomplete at time of creolization (Tinelli 1981: 122)
  - Incorrectly predicts modern French /y/ alongside creole /u/, not /i/. But anyway:
  - French ‘u’ already likened to /i/ and English ew in the late 16th century (Posner 1997:250ff)
  - Large-scale slave movements to French colonies only in the 17th century (Holm 1989: 356ff)
  ⇒ Native-speaker input to creoles did include /y/.
(5) French /y/ is partially delabialized in alveolar /tV/ contexts
(Funk 1953: 14; Tinelli 1981: 122)
- This doesn’t explain creole/SLA asymmetry. But anyway:
- /i y e/ “varied least across speech styles and phonetic contexts”
  (Strange et al. 2007: 1125)
  - /i-y/ contrast is reduced in /tV/ context, but /u-y/ suffers more
    (Levy & Strange 2008: 147)
- /i y u/ have similar F1, decreasing F2 (Gendrot & Adda-Decker 2005; Antes 2007: 36; Strange et al. 2007)
- Even when /i y/ overlap in F1 and F2, /y/ is distinguished by its lower F3 (Ladefoged 2005: 177)
  ⇒ /i y u/ are distinct categories in the native speaker input.

(6) SLA /y/ → /u/ is influenced by orthographic u
- Orthographic influence on SLA (e.g. Vendelin & Peperkamp 2006)
- But American English speakers perceive /y/ as /u/ without written input
  (Rochet 1995; Levy & Strange 2008; Russell Webb & Anderson 2010)
  ⇒ Both SLA /y/ → /u/ and creole /y/ → /i/ are independent of orthography.

(7) Split depends on strength of articulation (Russell Webb & Anderson 2010)
- Hyperarticulation in SLA input, reduced articulation in creole input?
  - /i-y/ overlap greatest with hypoarticulation at fast speech rates
  - Hyperarticulated lab stimuli result in SLA-like /y/ → /u/ (Russell Webb & Anderson 2010)
- But other work suggests that this would not explain the different outcomes
  - In fast speech, /u-y/ contrast suffers more than /i-y/ (Strange et al. 2007: 1125; Levy & Strange 2008: 147)
  - Sentence-embedded stimuli also result in SLA-like /y/ → /u/ (Levy & Strange 2008)
- Also, ‘foreigner talk’ is attested (morpho-syntactically) by 1655 missionary (Holm 1989: 364)
  - Usually accompanied by slow speech rate, clear phoneme distinctions (Hatch 1983: 155)
  ⇒ Hyperarticulated input to both creoles and SLA.

(8a) Split depends on L1 influence (Rochet 1995)
- Other cases of /y/ → /i/ in language contact
  - Brazilian Portuguese: French /y/ → /i/ in non-native perception experiments (Rochet 1995)
  - Indonesian: Dutch /y/ → /i/ in loanwords (Sneddon 2003: 164)
  - Serbian: German /y/ → /i/ in SLA, even the teachers (Jelena Krivokapić, p.c. 10 Nov 2010)
  - Taiwanese: Mandarin /y/ → /i/, with hypercorrection (Kubler 1981)
- /y/ → /u/ only in cases of atypical L1 /u/
  - American English /u/-fronting is well documented (e.g. Labov et al. 2006: 152ff)
  - Japanese /u/ is labialised but not rounded: French /y/ → /ju/ in loanwords (Dohlus 2005)
  ⇒ The creole/SLA split is an accidental gap: the real determining factor is L1.
Predictions of Rochet’s L1 influence hypothesis

- Since francophone Africa has similar L1 influence, it should have categorical /y/ → /i/ too
- But in fact, /y/ has /i/-like and /u/-like realizations
  - Asante Twi speakers in Ghana (Haggis 1975: 65)
  - Ewe speakers in South Togo (Lafage 1985: 165)
  - Bassa speakers in coastal Cameroon (Wamba & Noumssi 2004: 4)
⇒ L1 influence can’t be solely responsible for the creole/SLA split.
  - If it were, francophone Africa should have categorical /y/ → /i/ like the French creoles.

3. Proposal: Creole and SLA findings applied to this problem

(a) Creolization differs from SLA

- The very early stages of SLA tend not to be fossilized in creoles (Siegel 2006: 38)
- Untutored SLA by a group, not an individual in a classroom (Mufwene 2008: 133ff)
- Aim is intelligibility among learners, not with native speakers (Thomason and Kaufman 1988)
- Gradual creolization model: Target shift during successive waves of (adult) SLA
  - Historically documented (Arends 1989) and applied to syntax and the lexicon (Véronique 1994; Mather 2000; Selbach et al. 2009), but less to phonology (Kramer 2009).

(b) Gradual creolization in French colonies?

- In Martinique (a hub of the slave trade) free and slave populations only equalized after thirty years, and after fifty years the ratio was only 2:1 (Holm 1989: 365; Chaudenson 2001: 97)
- Two stages of settlement (Chaudenson 2001: 95ff)
  - Homestead stage: Fewer slaves, less sharp social distinctions ⇒ Access to native-speaker French
  - Plantation stage: Adult males, short life expectancy ⇒ Target shift: L2 French of previous arrivals.

(a) Early but reduced acquisition of L2 contrasts

- Contrasts are acquired early
  - L1 Chinese speakers distinguish English beat-bead (after only one year in America: Flege 1993)
  - L1 Italian speakers distinguish English /e/ and Italian /e/ (Flege et al. 2003)
  - L1 Arabic speakers distinguish English /p t k/ and /b d g/ (Flege 1980)
- But contrasts were reduced in all cases, even by experienced speakers
  - Speakers ‘average’ between L2 category and most similar L1 category (Flege & Hillenbrand 1984).

(b) Acquisition of /y/

- /y/ is intermediate between /i/ and /u/, therefore it could be ‘attracted’ by both (Bunta 2005)
  - Two ‘clusters’ in South Togo French: /i/-like [y] with reduced rounding vs. /u/-like advanced [u’]
- Which one would persist among experienced speakers?
  - The /i/-like variant (reduced [y]) is a perfect match in terms of features
- Would /y/ be an exception to early acquisition?
  - Monolinguals produce recognizable /y/ on first imitation trial (Borden et al. 1981: 115)
  - Little difference between experienced and inexperienced learners’ /y/ (Flege & Hillenbrand 1984)
    - Experience improves /u/: maybe this is the new category for AmEng speakers (Rochet 1995)
⇒ Prediction: early acquisition of /y/ with reduced lip rounding.
Acquisition of French /y/ in creolization?

- Contrast acquired early: attested in conservative rural St. Lucian (and Louisiana Creole)
- But contrast reduced
  - Rural St. Lucian: “The lips are less spread approaching a rounded position but by no means as for French front rounded /y/ as in jus.” (Carrington 1984: 18-9)
  - Louisiana Creole: /y/ is “rarely as fully rounded as in French” (Klingler 2003: 150)
  ⇒ The /i y u/ contrast was successfully acquired in early creolization, but probably reduced.

Summary

- Homestead stage: /y/ was successfully acquired, but probably with reduced lip rounding
- Plantation stage: Each wave of immigrants acquired /y/ with less and less lip rounding
  ⇒ The /y/ → /i/ shift was completed only at a late stage of creolization.

4. Conclusion

Typology

- Both /y/ → /i/ and /y/ → /u/ attested in most types of language contact, depending on L1
  - Non-native perception: Brazilian Portuguese/French, American English/French
  - SLA: Serbian/German, American English/French
  - Loans: Indonesian/Dutch, Japanese/French
  - Nativized varieties: South Togo French, Taiwanese Mandarin
- But only /y/ → /i/ in the special circumstances of creolization
  - Initially enough exposure to acquire the /i y u/ contrast, but reduced
  - Further reduction with each wave of immigrants due to target shift.

Different outcomes, different processes

- Similar outcomes in language contact are interesting, but so are different outcomes
- Clues to what creolization and SLA have in common, and where they diverge.
References


