

An investigation into the role
feature interpretability as a
constraint on feature recombination

Stéphane Térosier

University at Buffalo

sterosie@buffalo.edu

SPCL Winter Conference 2025

11 January 2025

Roadmap

- 1 Introduction
- 2 Theoretical background
- 3 Case study: The loss of grammatical gender
- 4 Conclusions

Introduction

Exceptionalism vs. uniformitarianism

- Key question in the study of creole genesis: **Do creoles form a distinct typological class?**
- Two main views:
 - **Exceptionalism:** yes, they do
 - Distinctive set of features found across creoles
 - Creoles are simpler than their lexifiers
 - **Uniformitarianism:** no, they don't
 - These features aren't exclusive to creoles
 - Creolization involves processes that are relevant to natural languages in general

Challenges for uniformitarianism 1/2

- I shall adopt a **uniformitarian approach**
 - Congruent with the view that the faculty of language is the same across the species
- In particular, I shall adopt Aboh's (2015; 2020) **Feature Recombination Hypothesis (FRH)**
 - By hypothesis, feature recombination is also involved in L1 acquisition

Challenge #1

- **How can we account for the similarities found across creole languages under a uniformitarian approach?**
 - Not predicted on the assumption that the features available varied from creole to creole

Challenges for uniformitarianism 2/2

- Aboh (2015): the output of FR is unpredictable
 - All variants are equally likely to be selected
 - In fact, possible overgeneration of variants
- Aboh (2020): attempt to constrain the FRH
 - More likely to target the syntax-pragmatics interface and subject to locality constraints

Challenge #2

- **How can we improve the predictive power of the FRH?**
 - Desideratum: **constrain the number of variants in competition**

The proposal

- Both exceptionalist and uniformitarian approaches acknowledge:
 - the **role of language contact**
 - the **importance of L2 acquisition**

The role of feature (un)interpretability

- In line with Walkden and Breitbarth (2019), I adopt the **Interpretability Hypothesis (IH)** (Hawkins & Hattori, 2006; Tsimpli & Dimitrakopoulou, 2007)
 - **Uninterpretable features aren't accessible to adult L2 learners**
 - **Limits the number of variants in competition**

A case study

- Application of this idea to a phenomenon often adduced as evidence for simplification:
 - **Loss of grammatical gender**
- According to APiCS (Michaelis et al., 2013):
 - No gender marking on adjectives in 60 creoles out of 75 (Maurer, 2013)
- These observations can be accounted for under the IH
 - **In line with the uniformitarian view, “simplification” results from processes that aren’t exclusive to creolization**

Theoretical background

The Feature Recombination Hypothesis

- Clearest formulation in Aboh (2015)
- May be viewed as a generative implementation of Mufwene's (2001; 2008) **Feature Pool Hypothesis**
- Accordingly, competition and selection among the features contributed by the various languages in presence
- Crucially, three types of features:
 - phonological
 - morphosyntactic
 - semantic

Illustration

- Consider the following example with two languages in presence, L_1 and L_2 , contributing respectively lexical items LI_1 and LI_2 s.t.
 - LI_1 instantiates $\langle Ph_1, Syn_1, Sem_1 \rangle$
 - LI_2 instantiates $\langle Ph_2, Syn_2, Sem_2 \rangle$
- By FR, L_3 will include a LI_3 selected from the following competing variants:
 - $\langle Ph_1, Syn_1, Sem_1 \rangle$
 - $\langle Ph_2, Syn_2, Sem_2 \rangle$
 - $\langle Ph_1, Syn_1, Sem_2 \rangle$
 - $\langle Ph_1, Syn_2, Sem_1 \rangle$
 - $\langle Ph_1, Syn_2, Sem_2 \rangle$
 - $\langle Ph_2, Syn_2, Sem_1 \rangle$
 - $\langle Ph_2, Syn_1, Sem_1 \rangle$
 - $\langle Ph_2, Syn_1, Sem_2 \rangle$

A problem of overgeneration

- According to Aboh (2015, 2020), **FR is more likely to target the syntax-pragmatics interface**
 - **Interface Hypothesis:** Interface phenomena pose a challenge to L2 learners (Sorace, 2011; Sorace & Filiaci, 2006)
- However, according to Aboh, **all variants stand an equal chance of being selected**
- **How can we, then, account for the various similarities found across creole languages?**
 - Cf., e.g., Bakker (2015), Bakker et al. (2011), and McWhorter (1998, 2018)
- May reduce to an **issue of overgeneration**

Language contact and simplification

- Before tackling this issue, I propose a detour through Trudgill (2011)
- Trudgill: **language contact may lead to either simplification or complexification of a language**
 - Long-term contact → complexification
 - Short-term contact + mass of adult L2 learners → simplification
- Crucially, **complexity construed as ease of acquisition by L2 learners**
- Trudgill's original proposal limited to the effect of contact on morphology and phonology

Extending Trudgill (2011) to syntax

- Walkden and Breitbarth (2019): attempt to **apply Trudgill's line of reasoning to syntax** with a special focus on processes of simplification
- Given the critical role of L2 acquisition, Walkden and Breitbarth adopt the **Interpretability Hypothesis** (Hawkins & Hattori, 2006; Tsimpli & Dimitrakopoulou, 2007)
 - IH: **L2 learners don't have access to the uninterpretable features of the target language**

An illustration: Jespersen's Cycle (1/3)

- Stage I: negative particle (1a)
- Stage II: negative particle in conjunction with an adverbial reinforcer (1b)
- Stage III: adverbial reinforcer replaces the negative particle (1c)

- (1) a. Stage I *jeo ne dis* (Old French)
b. Stage II *je ne dis pas* (Middle and Modern written French)
c. Stage III *je dis pas* (Colloquial French)

- (2) a. [_{NegP} ... [_{Neg'} Neg⁰ [_{uNEG}] [_{VP} ...]]] stage I
b. [_{NegP} XP_[iNEG] [_{Neg'} Neg⁰ [_{uNEG}] [_{VP} ...]]] stage II
c. [_{NegP} XP_[iNEG] [_{Neg'} [Neg⁰ Ø] [_{VP} ...]]] stage III

An illustration: Jespersen's Cycle (2/3)

- Walkden and Breitbarth (2019): during the Middle Low German period, transition from stage II to stage III
- (3)
- a. dar **en** sculle wii se **nicht** ane hinderen
there NEG shall we them NEG from bar
'we shall not bar them from it'
 - b. den schall me dat **nicht** weygeren
the.DAT shall one NEG deny
'One shall not deny them that'
- Loss of the negative particle *en* (3b)

An illustration: Jespersen's Cycle (3/3)

- Crucially, occurred as Middle Low German became “an international lingua franca around the Baltic and North Seas” (Walkden & Breitbarth, 2019, p. 191)
 - In other words, sociolinguistic situation which involved a critical mass of L2 adult speakers
- Arguably led to the loss of the [*u*NEG] particle *en* and the retention of the [*i*NEG] adverbial *nicht*
- Conclusion: **The IH can help us account for simplification in situations of language contact**

Combining the FRH and the IH

- The goal of improving the restrictiveness of the FRH **can be (partially) achieved if we combine it with the IH**, since:
 - Creolization involves the same type of sociolinguistic situation
 - Short-term contact with the lexifier, i.e. limited exposure

A step forward

- The combination of the IH with the FRH would:
 - account for the “simplification” of creole languages w.r.t. their lexifiers
 - account for their similarities
 - limit the number of variants in competition

Case study: The loss of grammatical gender

Loss of grammatical gender

- According to APiCs, 60 creoles out of 75 do not mark gender-based distinctions on adjectives (Maurer, 2013)
- Strongly suggests that **most creoles lack grammatical gender even when their lexifier makes such a distinction**
 - Baxter (2010): Contra Portuguese, no grammatical gender in Malacca Creole Portuguese
 - Neumann-Holzschuh (2006): Contra French, no grammatical gender in French-based Creoles
- However, **beware of the distinction between grammatical and natural gender**

Retention of natural gender

- It would be incorrect to say that creoles lack gender altogether
- In fact, **there are creoles which make morphological distinctions based on gender**
- I will argue that **Martinican Creole (MC) is one of these**
 - In line with the literature (e.g., Corbett, 1991), I diagnose gender on the basis of agreement between the noun and other categories
 - Here, **focus on agreement between nouns and adjectives**

The data 1/3

- According to Bernabé (1994), **a subset of MC adjectives distinguish between a masculine and a feminine form** (Table reproduced from Térosier, 2023)

| Masculine | Feminine | |
|-------------------|---------------------|----------------|
| <i>fou</i> | <i>fol</i> | 'crazy' |
| <i>visié</i> | <i>visiez</i> | 'vicious' |
| <i>bondalè</i> | <i>bondalez</i> | 'callipygous' |
| <i>éré</i> | <i>érez</i> | 'happy' |
| <i>eskandalè</i> | <i>eskandalez</i> | 'scandalous' |
| <i>fwansé</i> | <i>fwansez</i> | 'French' |
| <i>grenché</i> | <i>grenchez</i> | 'grumpy' |
| <i>japonnè</i> | <i>japonnez</i> | 'Japanese' |
| <i>manipilatè</i> | <i>manipilatrix</i> | 'manipulative' |
| <i>meksitjen</i> | <i>meksitjèn</i> | 'Mexican' |

Table: Examples of adjectives which are sensitive to natural gender

The data 2/3

■ Attributive adjectives:

- (4) a. an fanm japonnez/*japonné
a woman Japanese.F/Japanese.M
'a Japanese woman'
- b. an fimel-chien *japonnez/japonné
a female-dog Japanese.F/Japanese.M
'a Japanese female dog'
- c. an loto *japonnez/japonné
a car Japanese.F/Japanese.M
'a Japanese car'
- (Reproduced from Térosier (2023, p. 2))

- ## ■ Takeaway: **Gender agreement only occurs when the referent is [+human]**

The data 3/3

- Carries over to predicative adjectives

- (5) a. Fanm lan té japonnez
woman DEF PST Japanese.F
'The woman was Japanese.'
- b. *Fimel-chien an té japonnez
female-dog DEF PST Japanese.F
'The female dog was Japanese.'
- c. *Loto a té japonnez
car DEF PST Japanese.F
'The car was Japanese.'
- Safe to claim that MC possesses natural gender (though severely restricted) despite the fact that it "lost" grammatical gender

The puzzle

- The data suggests that the creators of MC were able to perceive gender-based distinctions.
- **Why is it, then, that they only kept natural gender and left out grammatical gender?**

- Admittedly, **factor 2 (experience) may play a role**
 - Given the arbitrary nature of gender assignment, its acquisition may be subject to **threshold effects**
 - Especially true of inanimate referents
- But **what about animal, non-human referents?**

The proposal

- I will now propose an account based on the IH
- In particular, I will rely on Kramer's (2015) analysis of gender:
 - gender is located on n
 - natural gender is an interpretable feature
 - grammatical gender is an uninterpretable feature
- I will further hold that **the exact “content” of natural gender is somewhat arbitrary**
 - [+animate]? [+human]? Probably a matter of culture...

- French possesses the following inventory of *ns*:
 - (6) a. *n i* [+FEM]
 - b. *n i* [-FEM]
 - c. *n u* [+FEM]
 - d. *n*

- According to the IH, **(6c) would have been inaccessible to the creators of MC**, which resulted in the **loss of grammatical gender** during creolization

- But this can't be the whole story

- In light of the data, it appears that MC has the following inventory of *ns*:

- (7)
- a. *n i* [+HUM, +FEM]
 - b. *n i* [+HUM, -FEM]
 - c. *n*

- By hypothesis, **the difference between MC and French may be the product of FR**
 - It may be that [\pm HUM] may have been relevant to the other languages in presence (but possibly in some other aspect of their grammar)
 - Further investigation is warranted

Takeaways

- Grammatical gender is often lost in creole languages because it is an uninterpretable feature
- As such, it posed a significant challenge to the creators of creoles
- Interestingly, some creoles, such as MC, were able to maintain natural gender
- But, even then, natural gender may differ in its content, which suggests that FR may be at play
- **The combination of FR and IH provides us with powerful tools to account for creole genesis**

Conclusions

Challenge #1

- **How can we account for the similarities found across creole languages under a uniformitarian approach?**
 - Not predicted on the assumption that features available varied from creole to creole
- May be due to the fact that uninterpretable features were consistently inaccessible across creole languages
- The “simplification” of creole languages may reduce to the loss of these features
- More importantly, **the application of the IH to creolization is congruent with the null hypothesis of creole genesis**

Challenge #2

- **How can we improve the predictive power of the FRH?**
 - Desideratum: **constrain the number of variants in competition**
- Per the IH, certain variants are consistently ruled out
- By eliminating these variants, we address the problem of overgeneration
- **By limiting the number of variants in competition, we improve the predictive power of the FRH**

Limitations

- Based on Modern MC and Modern French
- Archival research is necessary whether this may simply be a recent development
- Don't dismiss the role of threshold effects, esp. as regards opaque morphology
- Beware of the sometimes arbitrary distinction between interpretable and uninterpretable features

Perspectives

- Needs to be empirically tested (and to domains beyond gender)
- Look for other factors that regulate the competition among the remaining variants
- Cannot be the whole story: must be part of a model that takes into consideration the three factors in language (Chomsky, 2005)

Thank you!

References

- Aboh, E. O. (2015). *The emergence of hybrid grammars: Language contact and change*. John Benjamins.
- Aboh, E. O. (2020). Lessons from neuro-(a)-typical brains: Universal multilingualism, code-mixing, recombination, and executive functions. *Frontiers in Psychology, 11*, 488.
- Bakker, P. (2015). Creole languages have no ... - but they do have ... [C]ited:3 Cited References Count:16]. *Journal of Pidgin and Creole Languages, 30*(1), 167–176. <https://doi.org/10.1075/jpcl.30.1.07bak>
- Bakker, P., Daval-Markussen, A., Parkvall, M., & Plag, I. (2011). Creoles are typologically distinct from non-creoles. *Journal of Pidgin and Creole Languages, 26*(1), 5–42.
- Baxter, A. N. (2010). Vestiges of etymological gender in malacca creole portuguese. *Journal of Pidgin and Creole Languages, 25*(1), 120–154.
- Bernabé, J. (1994). Genre grammatical, genre naturel : Contrastes, oppositions et interférences en anglais, en créole et en français. *Espace créole, 8*, 29–59.
- Chomsky, N. (2005). Three factors in language design. *Linguistic Inquiry, 36*(1), 1–22.
- Corbett, G. G. (1991). *Gender*. Cambridge University Press.
- Hawkins, R., & Hattori, H. (2006). Interpretation of multiple wh-questions by Japanese speakers: A missing uninterpretable feature account [lu]. *Second Language Research, 22*(3), 269–301.
- Kramer, R. (2015). *The morphosyntax of gender*. Oxford University Press.
- Maurer, P. (2013). Gender agreement of adnominal adjectives. In S. M. Michaelis, P. Maurer, M. Haspelmath, & M. Huber (Eds.), *The atlas of pidgin and creole language structures*. Oxford University Press. <https://apics-online.info/parameters/40>
- McWhorter, J. H. (1998). Identifying the creole prototype: Vindicating a typological class. *Language, 74*(4), 788–818.

- McWhorter, J. H. (2018). *The creole debate*. Cambridge University Press.
- Michaelis, S. M., Maurer, P., Haspelmath, M., & Huber, M. (2013). *Atlas of pidgin and creole languages structures online*. Max Planck Institute for Evolutionary Anthropology.
- Mufwene, S. S. (2001). *The ecology of language evolution*. Cambridge University Press.
- Mufwene, S. S. (2008). *Language evolution: Contact, competition and change*. Continuum.
- Neumann-Holzschuh, I. (2006). Gender in french creoles: The story of a loser. In J. C. Clements, T. A. Klinger, D. Piston-Halten, & K. J. Rottet (Eds.), *History, society and variation: In honor of albert valdman* (pp. 251–273). John Benjamins.
- Sorace, A. (2011). Pinning down the concept of “interface” in bilingualism. *Linguistic Approaches to Bilingualism*, 1(1), 1–33.
- Sorace, A., & Filiaci, F. (2006). Anaphora resolution in near-native speakers of italian. *Second Language Research*, 22(3), 339–368.
- Térosier, S. (2023). A few remarks on gender in martinican creole. In P. Cabredo Hofherr, H. Glaude, & E. Soare (Eds.), *La grammaire est une fête / grammar is a moveable feast. mélanges offerts à / a webschrift for anne zribi-hertz* (pp. 327–340). Zenodo.
- Trudgill, P. (2011). *Sociolinguistic typology: Social determinants of linguistic complexity*. Oxford University Press.
- Tsimpli, I. M., & Dimitrakopoulou, M. (2007). The interpretability hypothesis: Evidence from wh-interrogatives in second language acquisition [lu]. *Second Language Research*, 23(2), 215–242.
- Walkden, G., & Breitbarth, A. (2019). Complexity as l2-difficulty: Implications for syntactic change. *Theoretical Linguistics*, 45(3–4), 183–209.