# Compensatory lengthening in French language acquisition Evidence from a nonword repetition task 

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# OCP20 - The 20th Old World Conference on Phonology 

Sabine Arndt-Lappe Universität Trier


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# Old World Conference of Phonology - OCP 20 <br> Université de Tours (France) January 25th-27th, 2023 

Program

Wednesday January 25th, 2023

|  | Speaker(s) | Title |
| :--- | :--- | :--- |
| $\mathbf{9 : 3 0}$ | Welcome/Opening remarks |  |
| $10: 00$ | $\begin{array}{l}\text { Invited talk: Hannah } \\ \text { Sande (Berkeley) }\end{array}$ | $\begin{array}{l}\text { Discontinuous harmony is movement } \\ \text { after local phonology }\end{array}$ |
| $11: 00$ | $\begin{array}{l}\text { Coffee break }\end{array}$ |  |
| $11: 30$ | $\begin{array}{l}\text { Posters } \\ \text { Kappa loanna \& Katerina } \\ \text { llioupoulou (Crete) }\end{array}$ | $\begin{array}{l}\text { Wang Yuxuan (Harvard) } \\ \text { Child speech vs aphasic speech: } \\ \text { heterogeneously motivated homogeneous } \\ \text { Consonant Harmony patterns }\end{array}$ |
| $\begin{array}{l}\text { Jesús Jiménez (Valencia) } \\ \text { \& Maria-Rosa Lloret } \\ \text { (Barcelona) } \\ \text { Exansparent and opaque rule interactions }\end{array}$ | $\begin{array}{l}\text { Explaining deviations from sonority } \\ \text { preferences in the distribution of rhotics in } \\ \text { Catalan }\end{array}$ |  |
| $\begin{array}{l}\text { Nikolay Hakimov } \\ \text { (Bamberg) } \\ \text { Stephanie Kaucke \& } \\ \text { Marcel Schlechtweg } \\ \text { (Oldenburg) }\end{array}$ | $\begin{array}{l}\text { Preliterate children's intuitions shed light on } \\ \text { the variable syllable structure in Russian }\end{array}$ |  |
| Learning a non-native vowel contrast with |  |  |
| vowel harmony in clear speech and in noise |  |  |$\}$

Thursday January 26th, 2023

|  | Speaker(s) | Title |
| :---: | :---: | :---: |
| 9:00 | Birgit Alber (Bozen) \& Eirini Apostolopoulou (Bozen) | Language change as minimal change of property values. |
| 9:30 | Geoffrey Schwartz \& Ewelina Wojtkowiak (Poznań) | Cross-language prosodic differences in onset clusters - acoustic evidence from Polish-English bilinguals |
| 10:00 | Quentin Dabouis (Clermont Ferrand) | Opaque yet still complex: Proper names in English |
| 10:30 |  | Coffee break |
| 11:15 | Claudia Parfene (Leipzig) \& Shanti Ulfsbjorninn (Memorial U.) | On the Shape of Roots in Romanian: Deriving the Nominal Inflectional Classes |
| 11:45 | Maude Bouvier (UQAM) | Double allomorphy in Korean nominative pronouns? Additional evidence from demonstrative and interrogative proforms for a floating segment analysis and derivation by phase. |
| 12:15 |  | Lunch break |
| 14:00 | Invited talk: Sabine Arndt-Lappe (Trier) | Have a little FAITH? Stress alternations, variability, and meaning |
| 15:00 | Posters <br>  <br> Peter Krause (Santa <br> Cruz) <br> Liu Haiyang (Lisbon) <br> Veronica Miatto (Stony Brook) <br> Markus Pöchtrager (Vienna) | Stop lenition in Canary Islands Spanish - a motion capture study <br> Violable cyclic construction of syntactic of post-syntactic linearization at PF \& cyclicity of postlexical phonology <br> Word-final schwas in Italian are non-syllabic vocoids <br> Yoruba vowels and the representation of openness |
| 16:00 | Coffee break |  |
| 16:30 | Benjamin Storme (Leiden) | The best of both worlds: variation and global evaluation in constraint-based grammars. |
| 17:00 | Razieh Shojaei (Leipzig) | A Gradient Harmonic Grammar account of Choguita Raramuri stress-accent |
| 17:30 | Sabrina Bendjaballah (LLING CNRS) \& David Le Gac (Rouen) | On Somali geminates: Phonetics, Phonology and Diatopic variation. |
| 18:00 | Clément Michard (Bern) | Selection of the epenthetic 'l' in French with travlo words |
| 18:30 |  | End of day 2 |

Friday January 27th, 2023

|  |  | Title |  |
| :--- | :--- | :--- | :---: |
| $9: 00$ | Sören Tebay (Leipzig) | Parallel interaction between infixation and <br> root domain constraints |  |
| $9: 30$ | N. Lampitelli (Paris <br> Nanterre), A. Briglia, E. <br> Bronner-Huard \& Ch. Dos <br> Santos (Tours) | Compensatory lengthening in French <br> language acquisition: Evidence from a <br> nonword repetition task. |  |
| $10: 00$ |  <br> Damulakis Gean (UFRJ) | Acoustic for nouns, orthography for verbs: <br> differential loanword adaptation and <br> defectivity. |  |
| $10: 30$ | Coffee break |  |  |
| $11: 15$ | Chris Golston \& Christian <br> Paulsen (Fresno) | Ancient Greek Accentual Classes |  |
| $11: 45$ | Invited talk 3: Noam <br> Faust (Paris 8) | Metrical weight as incorporation in Strict <br> CV metrics |  |
| $12: 45$ | Farewell/Closing remarks |  |  |
| $13: 15$ | End of day 3/End of OCP20 |  |  |

## Venue:

The conference will take place at the following address: 3, rue des Tanneurs 37000 Tours (the building is known as "Les Tanneurs", you cannot miss it).

Oral talks will be in Room 70 (ground floor): follow the signs from the building's main entrance.

Posters and coffee breaks will be in the library ( $5^{\text {th }}$ floor, take the lift): follow the signs from Room 70 and/or ask the organizers.

Welcome desk will be right in front of Room 70.

## Organizing Committee:

Véronique Abasq, Guillaume Enguehard, Jean-Michel Fournier, Nicola Lampitelli, Mohamed Lahrouchi, Marjolaine Martin, Stéfany Thierry

Institutional partners:


# Compensatory lengthening in French language acquisition: 

## Evidence from a nonword repetition task

Nicola Lampitelli ${ }^{1}$, Émeline Bronner-Huard ${ }^{2}$, Andrea Briglia ${ }^{2}$ \& Christophe dos Santos ${ }^{2}$<br>${ }^{1}$ MoDyCo UMR 7114 CNRS \& Université Paris Nanterre<br>${ }^{2}$ UMR 1253, iBrain, Université de Tours, Inserm, Tours, France

The issue. This paper investigates compensatory lengthening (CL) occurrences in the production of 59 French children, aged 4 and half years old on average during the first session and 6 and half years old on average during the second session. They have been tested through a nonword repetition task known as LITMUS-QU-NWR-FRENCH (LQNF, dos Santos \& Ferré 2016, dos Santos et al. 2020). CL consists of replacing the loss of a segment through lengthening of another segment (Gess 2011). One of the most common cases of CL involves the loss of a coda ( $\underline{C}$ in 1 ) followed by lengthening of the preceding vowel:
(1) (C)Vㄷ.CV $\rightarrow$ (C)V..$C V \quad[\mathrm{C}$ stands for consonant and V for vowel.]

Analyses of CL (Hayes 1989, Ingria 1980 a.o.) have generally postulated a requirement imposing the parsing of the mora originally associated with the lost coda: thus, lengthening the vowel preceding the dropped consonant has the immediate effect of realizing that underlying mora. This approach assumes that i. languages displaying CL must be moraic, and ii. morae cannot remain unparsed (in synchronic terms). It is generally claimed that mora is irrelevant in French (Dell 1995 a.o., but see Féry 2003); consequently, we should expect CL not to be occurring in this language. Rather, our data supports the hypothesis that words realize an underlying sequence of strict alternation of Cs and Vs (Lowenstamm 1996, Scheer 2004). We argue that CL results from a CV unit in the template associated with each nonword.
Children and data. The 59 children have been recruited in 2018-2019 in Tours (France), for none of them parents reported any kind of pathology (including speech pathologies). Each child was tested twice: first, in moyenne section (MS, roughly equivalent to Preschool in the US) then later in cours préparatoire (CP, roughly equivalent to $1^{\text {st }}$ grade) (Plasse 2021, Bellakhal 2021). LQNF consists of some items fitting this specific template (CV.)CV(C).CV where codas are limited to $/ 1 /$ or $/ \mathrm{s} /$ (see dos Santos \& Ferré 2016). Overall, seven such items with internal coda (IC) exist in the corpus: [kupalfi], [kufalpi], [fikuspa], [pafuski], [kuspa], [filpa], [pilfu], and seven without IC: [kifapu], [pufaki], [piklafu], [kuflapi], [fupli], [paklu], [plifu]. Each session was first recorded, then transcribed with Phon (Hedlund \& Rose 2022); later we segmented vowels and consonants manually using Praat (Boersma \& Weening, 2022) available directly through Phon.
Methodology. The production of the target items with IC was grouped into two categories, those whose IC was produced, and those whose IC was not produced by the children. For each of these productions, vowel length was obtained. The table below presents the data analyzed to date, i.e. the average vowel length for each item according to the presence or absence of IC in production in MS and CP. Whatever the item, the average vowel length is systematically longer if the item is produced without internal coda. For comparison purposes, the vowel length of the seven target-items without IC is given.

| NW (target) |  | Vowel length in s. ( $\sigma)$ |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Produced with IC | Produced without IC |  |
| with IC | MS | $\mathrm{n}=391$ | $\mathrm{n}=336 \mid 0.116(.052)$ | $\mathrm{n}=55 \mid 0.162(.058)$ |
|  | CP | $\mathrm{n}=398$ | $\mathrm{n}=391 \mid 0.093(.028)$ | $\mathrm{n}=7 \mid 0.164(.053)$ |
| without IC | MS | $\mathrm{n}=403$ | NA | $\mathrm{n}=403 \mid 0.138(.057)$ |
|  | CP | $\mathrm{n}=405$ | NA | $\mathrm{n}=405 \mid 0.109(.032)$ |

Results. As our data do not follow normal distribution, we used a non-parametric statistical test. The duration of the vowel in MS is statistically longer when the target NW with IC is produced without IC $(U(391)=14093.000 ; p<.001)$. The same statistical difference is found in $\mathrm{CP}(U(398)=2495.000 ; p<.001)$. Our data shows therefore that the vowel is clearly lengthened when the IC of a target NW with an IC is not produced in MS or in CP.
Discussion. Differing from Almeida (2008) who assumes that Portuguese/French bilingual children employ CL as a repair strategy to realize an underlying mora, then discharge it from their representation when the acquisition process is over, we hypothesize that children compute first the prosodic template of (non)words, namely (CV.) $\mathrm{CV}_{1}\left(. \mathrm{CV}_{\mathrm{CL}}\right) . \mathrm{CV}_{2}$, then they realize each CV unit. The $\mathrm{CV}_{\mathrm{CL}}$ refers to the site of realization codas $/ \mathrm{l} / \mathrm{and} / \mathrm{s} /$. In case the child does not produce codas yet, the repair strategy consists of spreading the vowel associated to $\mathrm{CV}_{1}$ onto $\mathrm{CV}_{\mathrm{CL}}$. In other words, CL emerges from the underlying sequence of prosodic positions, and this is orthogonal to the purported moraicity of French. In (2a), we show the representation of target form [filpa] and the form [fi:pa] produced by VAL1, one of the children in MS (2b). The duration of the lengthened vowel is 0.184 s .
a. Target

[filpa]

Production (VAL1)
$\begin{array}{lccccccc} & \mathrm{f} & \mathrm{i} & \mathrm{l} & & & \mathrm{p} & \mathrm{a} \\ & \mathrm{I} & \mid & & & & & \\ \text { b. } & \mathrm{C} & \mathrm{V}_{1} & \mathrm{C} & \mathrm{V}_{\mathrm{CL}} & \mathrm{C} & \mathrm{V}_{2}\end{array}$
[fi:pa]

In conclusion, robust statistical evidence militates in favor of vowel lengthening as a repair strategy when codas are omitted. Strict CV naturally accounts for CL with no need to assume morae in a non-moraic language like French.

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