FRENCH FOREIGN ACCENT PRODUCED BY ITALIAN SPEAKERS:
the relationship between effect of L1 prosodic background and L1 use

ROSSANA CAVONE* & MARIAPAOLA D'IMPERIO *
* Laboratoire Parole et Langage, Aix-Marseille Université, CNRS, Aix-en-Provence, France
rossana.cavone@lpl-aix.fr, mariapaola.dimperio@lpl-aix.fr

INTRODUCTION

PURPOSES:

• to study the influence of Italian L1 prosodic system during the process of French L2 acquisition in terms of different rhythmical structure realization

• to explore the relationship between rhythmic French foreign accent (FA) and the amount of L1 use

• to adopt the *Imitation* paradigm to study the rhythmic convergence in case of L2 acquisition

THEORETICAL BACKGROUND

French / Italian metrical differences
▪*Foot structure:*

French = iambic language
(stressed syllable is the last of Accentual Phrase)
Italian = trocaic language
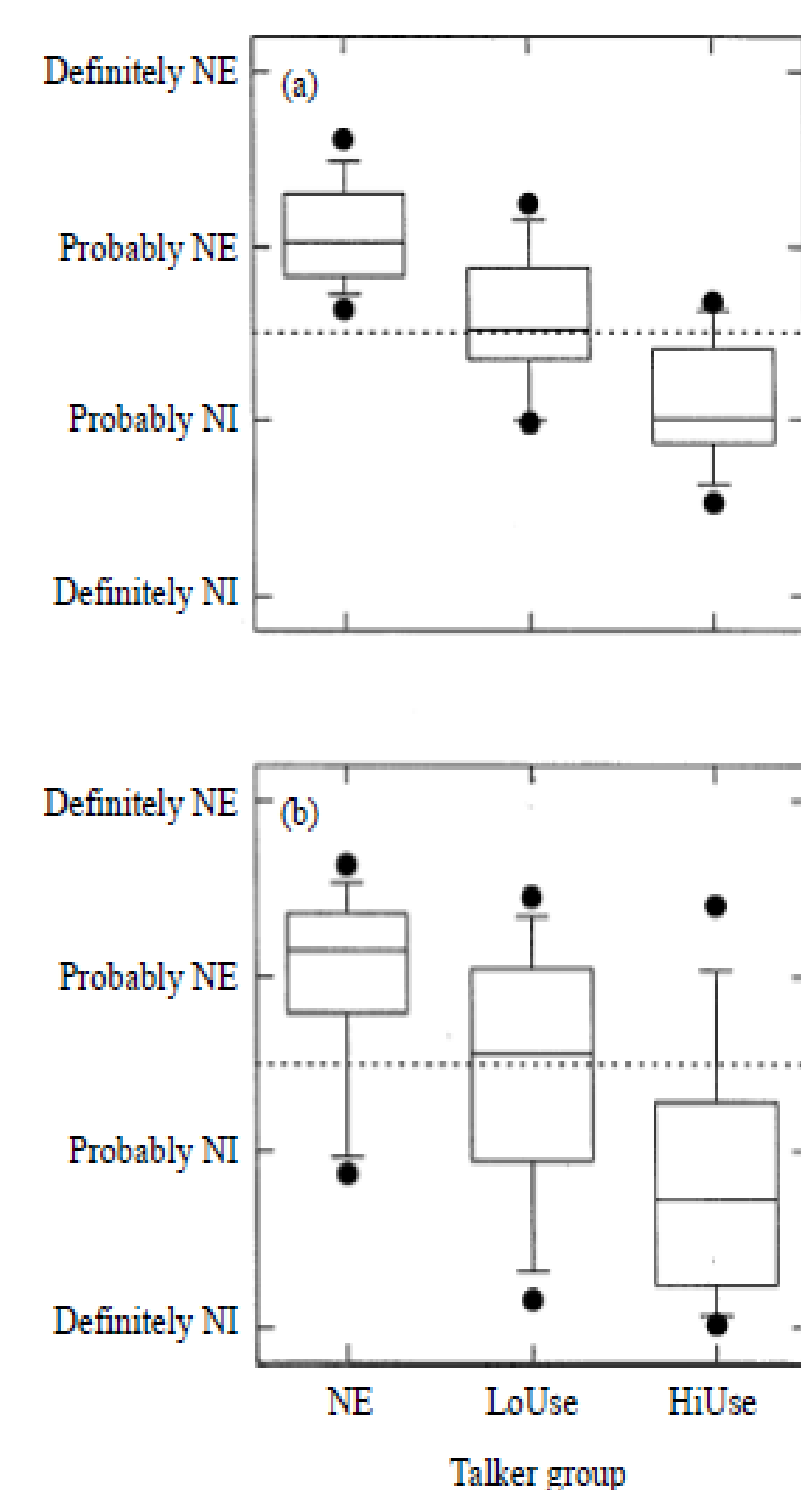(stressed syllable the last of the Prosodic Word)

▪*Phonology:* position of the metrical head
▪*Phonetic:* implementation of metric head as increased syllable duration

Effect of L1 use
• Flege (1997) assessed the effect, in perception, of amount of L1 use on performance in an L2

Draw by Flege et al. (1997). The mean ratings (a) by American listeners and (b) by Canadian listeners of English sentences spoken by native English (NE) subjects or by native Italian (NI) speakers who spoke Italian seldom (''LoUse'') or relatively often (''HiUse'') .

Imitation Paradigm
Fine phonetic detail of tonal alignment appears to be successfully imitated by speakers of two varieties of Italian.

Fig.: Draw by D'Imperio, Cavone & Petrone, 2013 (under review). Example of Imitation of tonal alignment by Bari Italian (BI) speaker [red line baseline block, green line imitation block] when imitating question intonation contours of Neapolitan speaker (BI L+H* vs. NI rising L*+H accent).

QUESTIONS:

(a) Is French FA produced by advanced Italian L2 speakers due to metrical differences both at phonetic and phonological level?
(b) Is there a relationship, in production, between FA degree (inter-speaker differences) and amount of L1 use?
(c) Are learners able to modify rhythmic phonetic detail to imitate native speaker?

HYPOTHESIS

(1) FA as result of longer duration of penultimate stressed syllable:
• during the Baseline longer duration of CV_P and shorter duration of CV_L
• during the Imitation longer duration of CV_P and shorter duration of CV_L
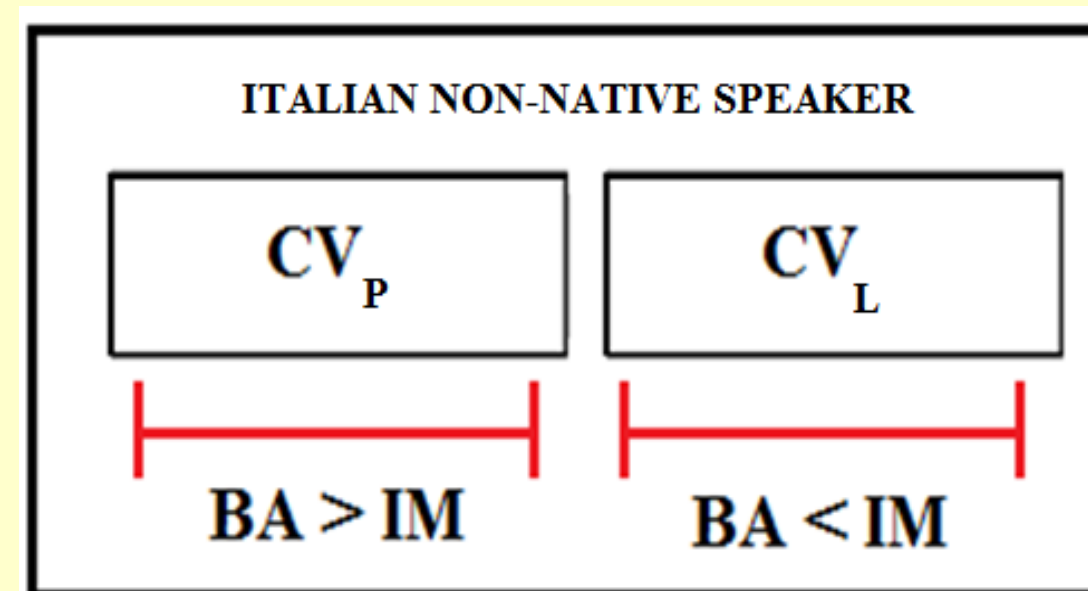
(2) strengthening of FA indices for IT L2 learners of French will be more important for those who are major users of L1:
• IT-L1use have longer duration of CV_P and shorten duration of CV_L compared to FNS and IT-L2user
• IT-L2use have less longer duration of CV_P and equal duration CV_L compared to FRN and IT-L2user

PRELIMINARY RESULTS (Baseline)

PENULTIMATE SYLLABE	FRENCH (1speaker)	ITALIAN (3 L1use speakers)	DURATION RATIO
ΔCV_P	≈ 16 ms	≈ 36 ms	≈ 20 ms

DISCUSSION

• **Different stage in the learning process?**

• **FA might be related to amount of L1/L2 use and not to the failure acquisition of L2 phonetic implementation?**

• **Phonetic details can be imitated across languages?**

REFERENCES

•Arvaniti, A., Ladd, D.R.. and Mennen, I. (1998). Stability of tonal alignment: the case of Greek prenuclear accents. *Journal of Phonetics*, 26 (1), 3-25.
•Brigitte B. (2012). SPAAS: a tool for the phonetic segmentations of Speech, Language Resources and Evaluation Conference, Istanbul, Turkey.
•Cavone, R.; D'Imperio, M. (2012). Prosodic interference in L2 French spoken by Italians: the role of tonal alignment and rhythmic structure. Proceeding of *ML2P Methods in L2 Prosody*, Padova, Italy, Mai 24-25 2012.
•Chociej, J. (2010). Quantifying Degree of Contact: Determining the Factors Significant for Heritage Language Speakers. Paper presented at the 14th Bilingual Workshop in Theoretical Linguistics, University of Toronto, December 9-10.
•Di Cristo, A. (1999). Le cadre accentuel du français contemporain, Langues 3(2), pp.184-205, Langues 4(2), pp. 258-267 .
•D'Imperio, M. (2002). Italian intonation: an overview and some question: Probus 14, 37-69.
•D'Imperio, M.; Cavone, R. and Petrone, C. (2012). Effects of direct dialect imitation on tonal alignment in two Southern varieties of Italian. Proceedings of *International Symposium on Imitation and Convergence in Speech* (2012 September 3-5: Aix en Provence, FRANCE).
•Flege, J.; Frieda, E. and Nozawa, T. (1997) Amount of native-language (L1 use) affects the pronunciation of an L2. Journal of Phonetics , 25, 169-186.
•Flege, J.; MacKay, I. and Meador, D. (1999). Native Italian speaker's production and perception of English vowels. *Journal of Acoustical Society of America*, 106, 2973-2987.
•German, J. (2012). Dialect adaptation and two dimensions of tune. Proceedings of Speech Prosody 2012, Shanghai, China.
•Goldinger, S. D. (1998). Echoes of echoes? An episodic theory of lexical access. Psychological Review, 105, 251-279.
•Jilka, M. (2000). The contribution of intonation to the perception of foreign accent, Thèse de doctorat, Université de Stuttgart.
•Jun, S.-A. ; Fougeron C. (2000). A phonological model of French intonation. Botinis, A. (ed.) Intonation: Analysis, modeling and technology. Dordrecht, Kluwer, pp. 209-242.
•Levitt, A (1991). Reiterate speech as a test of nonnative speakers' mastery of the timing of French. *Journal of the Acoustical Society of America, 90*, 3008-3018.
•Mennen, I. (2006). Phonetic and phonological influences in non-native intonation: an overview for language teachers, Working paper WP-9, June 2006, Queen Margaret University College.
•Michelas, A. (2011). Caractéristique phonétique et phonologique su syntagme intermédiaire: de la production à la perception. Ph.D. Dissertation, Laboratoire LPL, Aix-Marseille Université.
•Nielsen, K. (2011). Specificity and abstractness of VOT imitation, Journal of Phonetics 39(2): 132–142.
•Veru B.; Boula de Mareüil P. and Adda-Decker M. (2010). Characterization and identification of non-native French accents, Speech Communication 53 (2011) 292-310.
•White L.; Seven L. M. (2007). Calibrating rhythm: First language and second language studies, Journal of Phonetics 35 (2007) 501-522.

METHODOLOGY

PARTICIPANTS
40 Italian non-native speakers
(20 IT-L1use and 20 IT-L2use)

METERIALS

• 1 French native speaker (FRN)

• *Ethnic Orientation test (EO)* : 52 questions related to aspects of ethnic identity such as language use, make up of social network, community activities, attitudes toward culture heritage and a self-reported impressions of the individual speakers

• 20 neutral utterances (*repetitions* 2 speech rates * 40 participants) plus 40 fillers (IP/AP final)

Factors: lexical frequency (high/low); speech rate (normal/rapid); IP/AP final position

TARGET WORD	FREQUENCY
10	HF
10	LF

Ex. *J'ai vu la meDIna hier soir*
(I saw last night the Medina)

FILLER	PROSODIC BOUNDARY
10	AP final
10	IP final

Ex. (AP) *La fille, du mediNA]AP de Paolo, devenait vraiment méchante*
(The girl who managed Paolo's medina became really nasty)

Ex. (IP) *La fille, du mediNA]IP, d'après ce qu'on m'a dit, c'est assez sale*
(The medina, from what I'm told, it's very dirty")

PROCEDURE

3 sessions:

Baseline Task:

Participants read sentences using the target language (French)

Imitation Task:

Participants were told that they would be listening to a recording of a speaker using an another language and that they should try to imitate the way he said each sentence

Generalization (after two weeks):

Participants were given a second set of sentences, which they had not previously seen nor heard the French speaker produce, and were asked to continue imitating the accent without the aid of any recordings

MESURES

- Duration of target syllable (CV_P)
- Duration of last syllable (CV_L)
- Duration ratio between $CV_{P\text{-}IT}$ and $CV_{p\text{-}FNS}$

- EO questionnaire: [0] response toward French culture, [2] orientation toward the Italian culture, [1] mixed answer