Rhythm of French by Japanese learners
--- on the length of the final syllable

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1. Introduction

1.0. Importance of the suprasegmental features in SLA

1.1. Importance of the accent in French

Léon(1992)
On constate qu'en français standard une syllabe accentuée est en moyenne deux fois plus longue qu'une syllabe inaccentuée. On a vu que des variations de durées importantes peuvent être dues au nombre de phones dans la syllabe, à leur nature propre, à leur distribution et au type d’énoncé. Néanmoins, d’un point de vue statistique, la relation 2/1 de syllabe accentuée à inaccentuée ne change pas. (pp. 107-108)

ibid.
La paramètre d'intensité n'est pas toujours suffisant pour être différenciateur, comme non plus celui de hauteur dans la parole ordinaire. Il reste que la durée, elle, fonctionne presque toujours en français standard comme la marque essentielle de l'accentuation. (p. 107)

1.2. Characteristics of the accent in French

1.3. Durational characteristics of the sentence-final syllable in Japanese
Takeda, Sagisaka et Kuwabara (1989)
(on durational characteristics of Japanese)
shorter durations are found in sentence-final position in read sentences than in the other positions.

Campbell (1992)
(On Sentence-Final lengthening)
Following the trail of the /a/ in this context, we come to the phenomenon of sentence-final shortening in Japanese. This has been reported (Kaiki and Sagisaka, this volume; Kaiki, Takeda and Sagisaka 1990) from an analysis of the same speech database, and is in contrast to the more commonly found clause-final lengthening of other languages, and phrase-final lengthening of Japanese. (pp. 414-415)

—Œhi(2000)

1.4. Remarks by French native speakers

2. Methodology
2.1. Research questions
1) Do native speakers of Japanese learning French exhibit a tendency toward an insufficient final lengthening? If so, in what conditions?
2) Is the presence or the absence of this tendency related with the characteristics found in sentences in Japanese?
3) Does an insufficient final lengthening cause difficulties in listening by native speakers of French?

2.2. Data collection, analyses and experiences
i) On the length of the final syllable in French sentences read by learners
ii) On the length of the final syllable in Japanese sentences read by the same subjects
iii) Perception test with native speakers of French

2.2.1. Experiment 1
Objective: To examine the final syllable in French sentences read by learners (addresses Research question 1)
Subjects: 11 first-year students at Komaba, with two to three months of learning experience
Materials: 45 short sentences (40 declaratives + 5 interrogatives marked by a rising intonation) taken from a textbook in French phonetics, of which 13 were analysed in detail. Sentence length varying from two to five syllables.
Procedure: The subjects were presented with sentences printed on a sheet, and were asked to read them aloud, one by one. Then they heard the model recording,
and they imitated it. The two utterances shall be called, respectively, Corpora 1-1 and 1-2.

Analysis: The utterances were segmented. Two things were calculated: i) length of the vowel in the final syllable / length of the whole sentence; ii) length of the final syllable / length of the whole sentence. These figures were compared to those of the model recording.

2.2.2. Experiment 2

Objective: To examine the final syllable in Japanese sentences read by the same subjects (addresses Research question 2)

Subjects: The same learners as described above

Materials: 19 short sentences (16 declarative + 3 interrogative) in Japanese, conveying approximately the same quantity of information. Six of them analysed in detail. Sentence length varying from 4 to 14 morae.

Procedure: As in Experiment 1, the subjects were presented with printed sentences and asked to read them aloud one after another.

Analysis: After segmentation, as in Exp. 1, I calculated the weight of the final mora, i.e. length of the final mora / mean length of the other syllables in the same bunsetsu. I also computed the t-value with a hypothesis to adopt:

\[ H : \text{The length of the final mora is not significantly larger than the mean of the other syllables} \]

2.2.3. Experiment 3

Objective: To see if a prolonged final syllable improves comprehension and naturalness

Subjects: Four native speakers of French, teaching French to university students in Japan

Materials: Twelve pairs of sentences in French, each one consisting of i) an utterance selected from Corpus 1-1 which had a considerably short final syllable compared with that of the model; ii) a synthesised speech gained by prolonging the length of the final syllable in i)

Procedure: The subjects were presented with the stimulus i) described above and asked to evaluate it in a four-degree scale. Then they heard the stimulus ii) and asked to evaluate it in the same way, besides judging if there was an improvement.

Analysis: I dealt only with the improvement judgement. "Pareil" was reinterpreted as 0, "bcp mieux" as 2, and accordingly.

3. Results

3.1. Experiment 1

Final lengthening in model's utterances: 150 - 200 %

Insufficient final lengthening in the learners' utterances, but not with all the subjects, in all the sentences

Tendency towards insufficient lengthening in sentences ending with a polysyllabic word
3.2. Experiment 2
No remarkable final lengthening: less than 150% in most cases

3.3. Experiment 3
Improvement perceived in some of the cases, but not in all

4. Discussion
Accentuation in Japanese (Tokyo dialect)
Loan words or unknown words: by default, put the nucleus on the ante-penultimate mora;
Absence of lengthening after the "nucleus" 森(2000)

5. Conclusion
Insufficient final lengthening can be observed clearly when the final word is polysyllabic.
Other factors to consider:
Fluctuation, fall in particular, of F0
Longer final words
Syllable balance --- demonstration "voici une fille"

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