A Comparison of Syllabic Consonants on Multilanguage: Southern British, Japanese, and Korean Speakers

Kwanyoung Oh

Division of International Studies, Chonnam National University

okyoung@jnu.ac.kr

Abstract

This study investigated the syllabic consonants of three languages to confirm that the syllable structures of native languages may affect the articulation of each of the language's speakers, and Koreans, having learned English as a second language, may show some differences in the articulation of the syllabic consonants. The results of this study were consistent with the assumption regarding the native languages' effects, regardless of the period of English education.

Keywords

syllabic consonant, syllabification, phonotactics

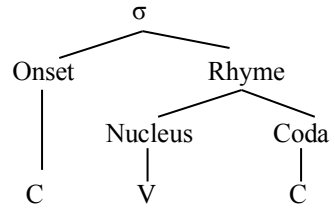
1 Introduction

The purpose of this study is to investigate two assumptions: One is as to whether the syllable structures of native languages can affect word-final consonants in pronunciation. The other is to confirm that a period of being exposed to English education can have an effect on the articulations of syllabic consonants. For this, first, I compare the syllable structures of three languages, Southern British English, Japanese, and Korean, with syllabification types of each language. Second, to examine the interruption of native languages on syllabic consonants, I compare the pronunciation of both Southern British English speakers and Korean speakers through acoustic analyses.

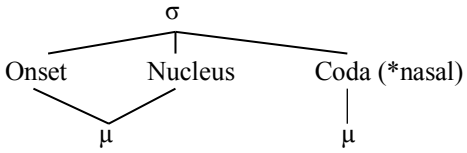
2 Syllable structures

As for the syllable types of languages, generally Japanese, Italian, and Spanish, etc. are CV language types. On the other hand, English and German are CVC types, but Korean is CGVC. However, the maximum syllable structure of English is like (C) (C) (C) V (C) (C) (C)V{(C)} (Yavaş 2011). The syllable structure of English, Japanese, and Korean are shown in (1), (2), and (3), respectively.

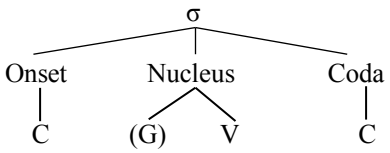
(1) English



(2) Japanese



(3) Korean



Let's consider what differences there are according to each syllable structure of the native languages from one example, *milk*. In English, it is perceived as just one syllable since /m/ is regarded as onset, /i/ nucleus, and /lk/ coda. However, in Korean, the word is perceived as two syllables because Korean allows only one coda, so /l/ is coda. So at the /k/ position, a default vowel /‿/ (/—/) is inserted as in [mil-k⌐‿]. In the case of Japanese, the word is perceived as three syllables since in Japanese only a nasal sound is allowed as coda, so /l/ and /k/ are each perceived as onset and a default vowel /u/ is inserted like [mi-ru-ku].

3 Syllabic consonants

With respect to syllabic consonants, there is a difference among English, Japanese, and Korean. In English, nasals /m, n, .·/ and liquid /l/ can be articulated as syllabic consonants in word-final positions. In this study, we are concerned only with nasal /n/ since although Korean has no syllabic consonants, Japanese has a syllabic consonant /ɴ/.

For English syllabic consonants, I review acoustics analyses of /n/ in Southern British English (Toft 2002). In the case of Japanese, I can't find any data of acoustic analysis about syllabic consonants, so I consider a phonological approach to the syllabic consonant /ɴ/. With regard to Korean, there is no syllabic consonant, so I experiment with English words containing syllabic consonant /n/ on Koreans and then compare their articulations with English speakers.

3.1 Southern British English

Toft (2002:116, 117) experimented on eight subjects to investigate whether they pronounced the supposed syllabic consonants /n/ and /l/ as syllabic consonants or non-syllabic consonants like schwa+consonants. Therefore, she measured duration and formant of the consonants. The result was that syllabic /l/ and /n/ had underlying different syllable structures, and especially /l/ was found to be syllabic regardless of context, while syllabic /n/ was context limited as in only after /t/, and not after /p/ or /k/. The spectrogram of syllabic /n/ as in *beaten* is shown as in Figure 1.

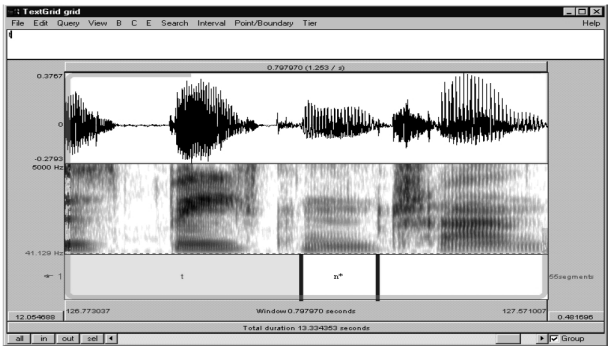


Figure 1: a syllabic consonant : *beaten* [bi:tn̩]

However, as we see in Figure 2, /n/ as in *spoken* is a non-syllabic consonant.

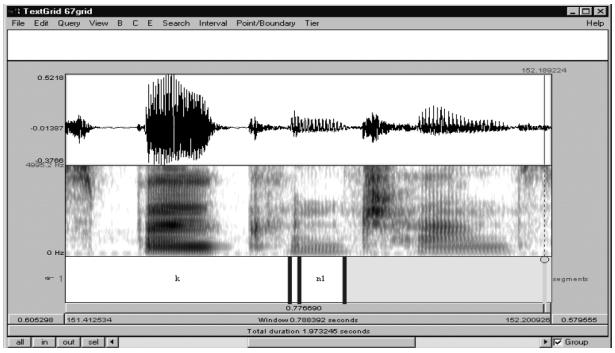
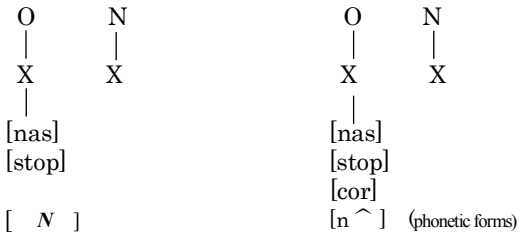


Figure 2: a non-syllabic consonant: *spoken* [spəʊkən]

3.2 Japanese

In Japanese, there are three types of sequences which may contain a mora, that is, one consonant followed by a vowel, a vowel itself, and a consonant [n̩] not followed by a vowel as only a syllabic consonant (Horie 1986). Concerning the syllabic consonant on the other hand, Nasukawa (2004) proposes that the placeless nasal *ɴ* as a syllabic consonant has both consonantal and vocalic characteristics and therefore has one mora. The syllabic consonant contains four allophonic variants [n] (in *ho*[n]*doo* 'main temple'< *hoɴ* 'main'), [m] (in *ho*[m]*mono* 'real thing'), and [.˙] (in *ho* [.˙] *kaɴ*). Thus, Nasukawa (2004) insisted that the placeless nasal consists of a two-position sequence: an onset and a nucleus, compared with an alveolar nasal in which a sequence consists of a placed nasal and the neutral vowel /◌͡◌/. Both can be illustrated as follows:

(1) a. Placeless nasal b. Alveolar nasal



3.3 Korean

In Korean, there are no syllabic consonants, and, additionally, the syllable structures of Korean do not permit both initial and final consonant clusters. Therefore, it is supposed that Korean speakers may pronounce an English word-final consonant /n/ as a non-syllabic consonant. To this check, I tested the English word *written* on Koreans, and the results are shown in Figures 3 and 4. That is, we can see that they articulated the /n/ with a non-syllabic consonant like [rՈt͡n].

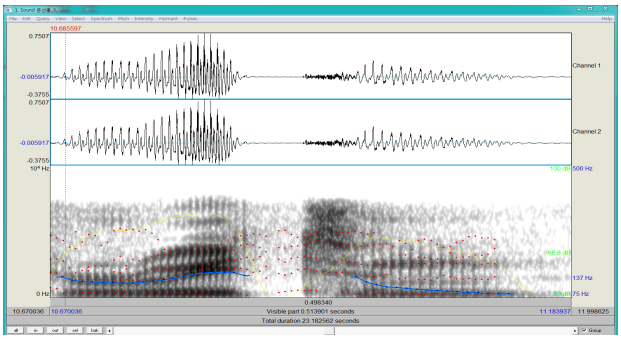


Figure 3: a non-syllabic consonant: *written* (male)

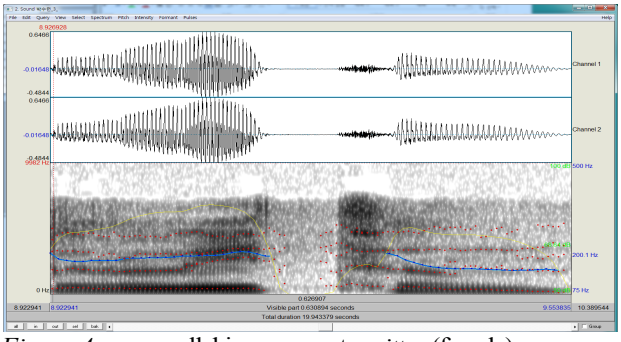


Figure 4: a non-syllabic consonant: *written* (female)

4 Conclusion

As for syllabic consonants, we can recognize that the articulation of syllabic consonants in English is closely related to the syllabification of native languages and the production of syllabic consonants for Koreans is restricted by the speech habits of their native language. In addition, we can confirm the fact that Korean speakers have a tendency to translate a syllable structure by inserting a default vowel.