論文の英文要旨

論文題目	Phonetic evidence for an internal structure of the prosodic module: Japanese and Slovene based on the Integrated contrastive model
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Prosodic typology classified world languages by setting two opposite prototypes, tone languages and stress languages. In the history of prosodic research, research on tonal languages and its prototype progressed quickly successfully implemented the tonal binary distinction high and low on each segment, leaving out the so-called pitch-accent languages. Stress on the other hand was phonetically elusive and was considered a mental construct. The already marginal phonological status of stress weakened even further when the binary tone system proved to be applicable for intonation studies. Based on the fact that all spoken world languages use pitch in one way or another, intonation phonology became the means of comparison among languages, and blured pitch-accent languages with stress languages for they share a common property; the [+culminative] feature also called accent.

Hyman (2006) returned to the typological foundations – the word-prosodic typology – to propose two properties that define the stress language prototype: stress in phonological words is [+obligatory] and also

[+culminative]. The two properties separated stress languages from pitch-accent languages, which were described as [−obligatory] and [+culminative]. The distinction [±obligatory] phonologically satisfies the difference between Japanese as a pitch-accent language and Slovene as a stress accent language, however, the feature alone does not make it possible to understand the prosodic typological differences between the two languages, and it seems that it is not directly applicable neither to prosodic function not to the nature of the stress language prototype.

This paper highlights the potential theoretical problems concerning the typology of Japanese and Slovene, and undertakes the empirical research to find the solution. Using reading materials by five native speakers and five second language learners, I conducted an acoustic experiment to clarify how the prosodic parameters correspond to the [+culminative] feature in Japanese and Slovene, and to offer new insights to capture and understand properties of the stress language prototype better.

Presently, there are two basic trends of prosody research in its linguistic core; the first is prosodic modelling (Fujisaki 1984) and prosodic transcription (Pierrehumbert & Beckamn 1988, Hualde & Prieto 2016), which basically equate prosody with intonation to illustrate concrete language performances, and the second is the so-called broad-stroke traditional phonological approach to prosody, which focuses on prosodic properties and the mechanisms by which they are exploited (Hyman 2006, 2011).

While admitting the benefits of the former approach to prosody, this work takes the stance of the latter and builds its general methodological framework based on the following three issues.

To begin with, *surface representations, although possibly phonological, may not provide reliable insight – if at all – into the nature and function of the underlying prosodic mechanisms.* They "collapse lexical and intonational functions as well as underlying and surface representations" (Hyman 2011: 228) in favor of

surface comparisons of phonetic realizations, that may happen to look very similar (Golob 2005; Jun 2005; Gussenhoven 2007).

Furthermore, *the know-how of prosodic mechanisms is indispensable for practically any interdisciplinary research involving phonology, including the internal segmental – suprasegmental interface, morphophonology, or second language acquisition.* Hyman (2018: 2) cites Sapir (1925) to say that recent "non-involvement of phonologists with the field of typology stands in stark contrast to the fact that phonology has been typological from its very beginning".

Finally, *phonological typology, which is the source for understanding prosodic mechanisms, can provide additional insights into prosodic mechanisms through research on interlanguage prosody.* Interlanguage is yet another human language system, and its contribution to phonological typology is its compromised form which is "neither fully like the target language nor very similar to the source language on which it may be based" (Odlin 1989: 112).

Based on the above, my aim in writing this paper is twofold. First, following the concept of probabilistic phonology (Pierrehumbert 2000) I conduct an acoustic experiment on Japanese and Slovene as native languages (L1) to show that, although the [+culminative] feature is common to both languages, there is a difference in the parameters responding as well as in the way they respond. Second, based on the "Integrated Contrastive Model" (Rasier & Hiligsmann 2007) I observe how acoustic parameters respond to the feature [+culminative] in Japanese and Slovene as second languages (L2) to show that the prosodic mechanism at the word level is the most uncompromising mechanism in a language that establishes the overall prosodic circumstance.

Measured acoustic parameters, namely vowel formants, duration, fundamental frequency, and intensity match the four prosodies reported by Pfitzinger (2006), thought to be essential for the linguistic aspect of prosody (vs. para-linguistic, extra-linguistic).

In general, the results for L1 Japanese and L1 Slovene show clear trends and support previous results. They serve as the benchmark for the L2 Japanese and L2 Slovene results, and point out some new and interesting trends.

Since the parameters were extracted from an uncontrolled read speech, it was necessary to evaluate the parameter responses in three steps. First, whether parameters correlates with the [+culminative] feature, second, whether they correlate systemically, and third, in which way they correlate systemicly.

In L1 Japanese, pitch is the only prosodic feature that shows a systemic and uniform response, namely that accented vowels have a statistically higher pitch than the following vowels. In L1 Slovene, on the other hand, the pitch showed violent reactions but due to unclear tendencies we consider it to be strongly structured. In other words, we assume that factors at higher metrical levels influence acoustic pitch values. Other three parameters in L1 Slovene show uniform responses; accented vowels are statistically longer than the following vowels, they show no apparent vowel reduction compared to the unaccented vowels, and they are statistically pronunced with higher intensity than the following vowels. The intensity response was rated as less reliable, with data showing statistical significance in three out of five informants.

Results for the two second languages provide further important insights. L2 Japanese shows no correspondence to the [+culminative] feature, the deviation in the acoustic data is negligible for all speakers. On the other hand, L2 Slovene shows much more prosodic activity. The pitch showed violent responses as in L1 Slovene but the trend is unclear and requires further investigation. On the other hand, vowel formants are

the only parameter that does not respond to the [+culminative] feature and no vowel reduction is observed. In this context, the L2 Slovene manifestation of the duration response deserves further attention. Four out of five informants showed statistically greater duration on accented vowels and at the same time no vowel reduction, suggesting that Japanese speakers of Slovene used the segmental long – short distinction found in their native language to respond to the [+culminative] feature. It has already been reported that a learner would employ familiar phonological processes from his native language to achieve the best similarity with the phonetic manifestation of the target language (Selinker 1983).

The above results suggest that the interpretation of word-level syntagmatic prominence in the case of stress language prototype needs to be reconsidered, and as suggested, should be defined bidirectionally. To rephrase, a part of a phonological word is prominent, either because the parameters of the outstanding part are in some way superiorized to those of the rest of the word (maximizing the paradigmatic opposition), or because the parameters of the rest of the word are in some way inferiorized (minimizing the paradigmatic opposition), or both.

The [+culminative] feature represents the former process, namely the superiorization of one part of a phonological word. In the last chapter of this paper, I propose a new prosodic typological feature called [±eliminative] for the minimalization process to fulfill the insufficiency with the conventional typological features. The two features [+culminative] and [+eliminative] can, together with [+tone] define a stress language prototype.