

## A study on the replacement of [p]~[h] between Korean and Japanese

Since 19th Century, Korean has been considered as belonging to Ural-Altaic languages due to the similar phonological and morphological structure to other Ural-Altaic languages (N.-D. Lee, 1985). However, Grunzel (1895) insisted on the separation of Uralic and the Altaic languages, and Ramstedt (1949) and Poppe (1960) thought that Korean is one of the Altaic languages. As for the Japanese origin, the longstanding debate continues as to whether it is of Altaic origin or not. Unger (1990) proposed the term of “Macro-Tungusic” and insisted Korean and Japanese should belong to “Macro-Tungusic” along with other Tungus languages. This suggests that the majority of Japanese vocabulary may have its roots in Korean, even though a consensus has not been reached over the categorization of Korean and Japanese (N.-D. Lee, 1985; N.-G. Lee 1992; Shimizu & Park, 2004; S.-T. Kim, 2005; M. Park, 2008; Y.-U. Kim, 2008). Nevertheless, the theoretical study on the phonological relationship between both languages remains largely unexplored.

In this context, this paper attempts to analyze how the segment /h/ has been fixed as the present Japanese form from Korean /p/ in the framework of the optimality theory (McCarthy & Prince, 1993; 1994; 1995; Archangeli & Langendean, 1997), providing diachronic, synchronic and orthographical evidences for this transition. The related data is as follows:

(1)	Korean	Japanese	gloss	Korean	Japanese	gloss
	[pom]	[haru]	spring season	[pan]	[heya]	room
	[pap]	[han]	rice	[pan]	[han]	half
	[paksu]	[hakushu]	applause	[punə]	[huna]	crucian carp
	[put]	[hude]	painting brush	[phari]	[hae]	fly

Firstly, as diachronic evidence, the ancient Ainu /p/ seems to have gone through the process /p/ ->/ɸ/ -> /h/ (Martin, 1987). This can be accounted for by delabialization which occurred in order to lighten the strain on the lips. Since this delabialization process happened actively in the historical transition of Japanese, there would be no doubt that vocabularies of Korean origin also experienced delabialization as well when they were introduced to Japanese.

Secondly, the synchronic evidence for [p]~[h] transition can be found in the alternation in modern Japanese. Labrune (2012:70) showed the following examples.

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|---|--|
| (2) a. yahari → yappari ‘actually’      | b. ichi + hon → ip-pon ‘one long object’ |
| suki + hara → sukippara ‘empty stomach’ | shutsu + hatsu → shuppatsu ‘departure’   |
| su + hadaka → suppadaka ‘naked’         | kiN + hatsu → kinpatsu ‘blond hair’      |

As shown above, [p]~[h] alternation occurs in not only Yamato Japanese (2a) but also Sino-Japanese (2b). These examples support that modern Japanese [h] has been derived from [p].

Thirdly, when this diachronic and synchronic phonological changes are taken into consideration, the asymmetry shown in the Japanese syllabary can also be understood. Many lines of Japanese syllabary show a two-way voicing contrast, depending upon the absence or presence of ‘dakuon’. However, in HA-line, a three-way contrast appears unexpectedly. That is, ha-hi-hu-he-ho line becomes voiced ba-bi-bu-be-bo by attaching ‘dakuon’, and tensified pa-pi-pu-pe-po by attaching the ‘han-dakuon’. Although /h/ and /p/ have few phonetic similarities with each other, it is apparent why HA line is transited into PA line by attaching ‘han-dakuon’ when the diachronic and synchronic process /p/ -> /h/ is considered.

In conclusion, the segment /h/ in modern Japanese vocabulary which is derived from Korean /p/ has been established by constraint reranking related with segmental optimality. By showing this, I will try to verify that the etymology of some Japanese vocabulary can be traced back to Korean. Furthermore, it is expected that this argument might shed some light on the contentious debate regarding the historical connection between Korean Japanese.

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