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**The Vowel System and Vowel Harmony in 15th Century Korean: "alay-a" revisited**

Young-Key Kim-Renaud

The George Washington University

Abstract:

In Middle Korean, which extends from the tenth century to the end of the sixteenth century, Vowel Harmony (VH) applied quite systematically within the boundary of a word, unlike in contemporary Korean where VH is limited to sound-symbolic words and some affix-initial vowel alternations. Long regarded as one of the distinguishing characteristics of Altaic languages, VH in Korean has been the subject of inquiry by numerous linguists. While the descriptions of consonantal letters are clear, those of vowel symbols have not yet received satisfactory interpretation, in spite of the countless analyses that have been proposed. The VH principle, which is closely related to the posited vowel system, has accordingly received various analyses, because the dividing line of the two harmonic groups has been different depending on the scholars, due to their divergent interpretation of positions of articulation of various vowels.

This paper proposes a linguistically significant and more plausible reading of two Chinese characters, “蹙” and “張” in *Ceycahay* (Explanation of the Designing of the Letters) of *Hwunmin Cengum hayrye* (Explanations and Examples of the Correct Sounds for the Instruction of the People), which demonstrates that Korean VH was indeed a vertical kind like most VH systems in Altaic languages.

The two words used for defining vowels, “口蹙” and “口張”, are of crucial interest, because there is no consensus over what those features mean (Gwak 1999). The two features are clearly juxtaposed as a contrastive pair, but many linguists saw them as unrelated to each other, because the two Chinese characters “蹙” and “張” have usually been translated as

independent from each other. There are a few linguists (e.g., Kang Sinhng 1990: 73, Lee Soong-Nyung 1949: 28) who did view them as paired features in Middle Korean vowels but no one thus far seems to have noted how placing vowels in the articulatory space according to *Hwunmin Cengum hayrye*, elegantly explains the VH phenomenon and a whole host of other phonological phenomena, including the Great Korean Vowel Shift, the loss of the vowel <•>, variation of the vowels <←> and <↓>, and the demise or weakening of the VH rule in later Korean.

Furthermore, regardless of how linguists read the two Chinese characters, the placing of vowels by most linguists in the articulatory space seems to have been rather idiosyncratic (e.g., Lee Soong-Nyung *ibid.*, Kim Yun-kyeng 1957: 7). The most common assumptions have been some kind of vertical harmony but researchers have often relied on abstract vowel systems that were reconstructed by various methods to explain the thorny issues of VH in late Middle Korean (e.g., Lee Ki-Moon 1972: 141-42, Cho Sung-moon 2002: 280).

The rather uncommon character “蹙” can be translated for linguistic purposes as “closed, but not completely,” or rather “pursed,” “puckered,” etc. — In other words it could mean “lips tightened in such a manner that the mouth-opening is held tensely as small as possible.” The genius of the use of this vowel feature employed in *Hwunmin Cengum hayrye* is the fact that it catches both the lip rounding and the jaw height at the same time. Many linguists (e.g., Gari Ledyard 1966: 235, Kim Yeng-song 1988: 95) have opted to interpret this mainly to mean “rounded”, although the fact that the lips are “close in but not actually shut” is mentioned by some including Ledyard (*ibid.*). Kim Wanjin (1963) had a similar analysis of the Middle Korean vowel system and VH as presented in this paper, but his revised analysis (Kim Wanjin 1978) adopts an entirely different vowel system, which is similar to the one proposed by Huh Woong (1965: 376). Kim Wanjin then claims that Korean VH is a diagonal VH, which is hypothesized in analyzing contemporary Korean by

Kim Chin-W. (1978). However, the diagonal analysis, like the proposal of semantic features in explaining VH by Kim-Renaud (1986), is not phonetically motivated.

A common but crucial misinterpretation has been the articulatory position of two of the basic vowels, <•> and <↔> in the vowel chart. A great majority of linguists have interpreted their tongue frontness and backness, while not considering their jaw height (or the closedness or openness of the lips). Furthermore, the vowel <•> was often placed too low on the chart, and the <↔> too high, when they both needed to be placed in the mid position. Once their position has become misplaced, the other related vowel positions could not be identified properly.

Almost always, the misinterpretation of the vowel positions originates from the preconception that the letters of the Korean alphabet had the same phonetic values at the time of its promulgation as in the current pronunciation. Once that preconception is overcome, the following chart obtains for the basic vowels of the Korean alphabet in 1446:

Mouth \ Tongue	Front/Neutral	Central/Dark	Back/Bright
	Close	ㅣ /i/	ㅓ /ɨ/
Mid		ㅡ /ə/	• /o/
Open		ㅑ /a/	ㅓ /ɔ/

This analysis not only helps to explain VH elegantly, but in addition some other phonological phenomena may find their explanation when this vowel system is established. The generally accepted hypothesis is that the Great Korean Vowel Shift was caused by the merger of •/o/ with ㅡ /ə/. This paper claims that this merger is a consequence of neutralization of contrast in the weak, non-initial position. Furthermore, it also explains how the vowel • /o/ took the

direction of — /ə/ or ㅓ /ɔ/, as it lost its own distinct identity: The two vowels are articulatorily very close to the vowel • /o/. My own hypothesis is that the Korean vowel shift was a push-chain type. The two very closely located low vowels ㅓ /a/ and ㅓ /ɔ/ created an unstable situation, which caused the low back vowel to take the central position, forcing the low central vowel to raise, and thus starting a chain reaction.

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