

# The Great Vowel Shift and Some Phenomena Similar to it

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**Lee, Yong Jun. 2012. The Great Vowel Shift and Some Phenomena Similar to it. *SNU Working Papers in English Linguistics and Language X*, XX-XX.** This paper aims to take a brief look at how GVS in English can be explained and to show some examples which can be related to GVS. It comes to the conclusion that the similar phenomenon to GVS occurred in short vowels in English, and that some vowels in Korean show the similar pattern to GVS. (Seoul National University)

**Keywords:** diphthongization, Great Vowel Shift (GVS), Short Vowel Shift (SVS), Korean Vowel Shift (KVS).

## 1. Introduction

English has undergone continuous and dramatic change throughout its three major periods: Old English (roughly from 450 to 1100), Middle English (from 1100 to 1500), and Modern English (from 1500 to the present). The change has occurred in all aspects of language from sound to morphological forms to lexical and semantic meanings.

The Great Vowel Shift (hereafter abbreviated as GVS) is one of the sound changes which took place in English in a century or two during and after Chaucer's lifetime. It seems that the GVS was perhaps the most important process in the change from Middle English to Modern English, because, without GVS, it would be impossible to explain short-long vowel alternation in Modern English and irregular plural and past tense forms in English as in the following examples.<sup>1</sup>

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<sup>1</sup> 이동국, 손창용. (2004). *영어사*. 서울: 한국방송통신대학출판부, 158~164.

- (1) a. divine – divinity [aɪ]~[ɪ]  
 b. mouse – mice [aʊ]~[aɪ]  
 c. find – found [aɪ] ~ [aʊ]

This paper is concerned with the fact that some rules in this interesting and important sound change can be applied to other similar sound changes; that is, GVS occurred in short vowels of English as well as in long vowels. Another fact that similar phenomenon to GVS can be found in Korean is also the concern of this paper.

- (2) a. ME hat[hat] > EModE [hæt] > PDE [hæt]  
 b. Jane-i yeppeda → Jane-i ippeda [e] ~ [i]  
 Jane is pretty.

The paper is organized as follows. Section 2 outlines how GVS can be explained by using some rules. Section 3 shows short vowel GVS and some GVS rules modified to explain them. Section 4 shows sound changes in Korean similar to GVS. In Section 5, summarizing and concluding remarks will be provided.

## 2. General explanations about Great Vowel Shift

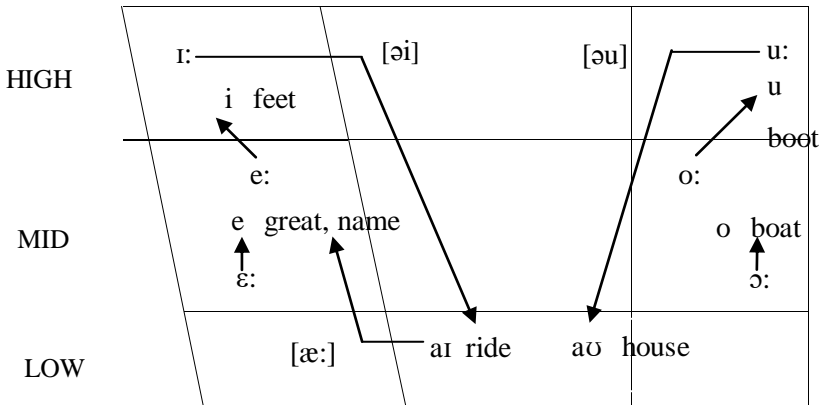
According to a course in phonology, GVS can be defined as a far-reaching chain of changes in the vowel system of English which eventually yielded [a ɪ], [i:], and [eɪ], at the front, and [aʊ], [ɔ:], and [o ʊ], at the back.<sup>2</sup> The GVS has been viewed as a systemic shift of either push chain or drag chain. A drag chain analysis can be proposed if there is evidence showing that diphthongization triggered the raising of non-

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<sup>2</sup> Iggy, R. and W. Johnson. (2005). *A Course in Phonology*. London: Blackwell Publishing, 691.

high vowels. One of the earliest claims for the drag chain analysis was proposed by Jespersen (1909: 232), stating that after /ɪ:/ and /ʊ:/ had been diphthongized, there was nothing to hinder /e:/ and /o:/ from moving upwards and becoming /i:/ and /u:/.

**Figure 1. Great Vowel Shift – drag chain analysis**



On the other hand, Lass (1976) considers the GVS a push chain shift, stating that raising of the low vowels caused the successive upward movements of the mid vowels and diphthongization of the high vowels. We can summarize these two analyses as shown in Figure 1.

### 3. Some rules to explain GVS

There are many rules to explain GVS, but they can be divided largely into two categories. One is based on the (push and drag) chain analysis, and the other is based on the SPE approach.

#### 3.1 Rules based on the chain analysis

##### 3.1.1 Lass

The rule suggested by Lass (1976) supports the push chain analysis. It

states that non-high vowels (mid-vowels /e:, o:/) were raised first, and then to avoid any clash between high vowels and non-high vowels, the mid-vowels moved upward successively, and high vowels were diphthongized. More detailed explanations are suggested in the GVS metarule below in Figure 2. This analysis, however, couldn't explain why non-high vowels were raised.

**Figure 2. GVS metarule schema by Lass**

**GVS metarule schema**

- a. Metarule : VV → [+raise] [+raise]
- 1 2      1      2
- b. Condition : No collapse if (a)
- c. Implication : If ~ (b), then :

$$\begin{array}{ccc}
 \left[ \begin{array}{c} V \\ +high \end{array} \right] & \left[ \begin{array}{c} V \\ -high \end{array} \right] & \rightarrow [-high] \\
 1 & 2 & 1 \quad 2
 \end{array}$$

**3.1.2 Kubozono**

The rule suggested by Kubozono (1983), in contrast to Lass, supports the drag chain analysis. Like Jespersen (1909)<sup>3</sup>, Kubozono suggested that some sounds moved somewhere and left empty space, and therefore others came to move and fill the empty space. In other words, diphthongizations of high vowels occurred first, and as a result of them, there came to be the empty space of high vowels, which had to be filled with non-high vowels. The process can be illustrated in Figure 3.

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<sup>3</sup> Jespersen states that change starts at the top (i.e., /i:/ and /u:/). /i:, u:/ diphthongize and leave empty slots, and then there were nothing to keep /e:, o:/ from rising upward, so they are raised (or dragged) up into the empty slot and become(replace) /i:/ and /u:/. There is of course no /e:, o:/ and this gap was filled as /ε:, ɔ:/ were raised to /e:, o:/.

**Figure 3. GVS metarule schema by Kubozono**

**GVS metarule schema**

a. Impulse :

$$\begin{bmatrix} \text{V} \\ +\text{long} \\ +\text{high} \end{bmatrix} \rightarrow [+Diphthongization]$$

b. Universal Well-Formedness Condition :

No gap may be left unfilled in the vowel system

c. Entailed Metarule

$$\begin{bmatrix} \text{V} \\ +\text{long} \\ -\text{high} \end{bmatrix} \rightarrow [+Raise]$$

**3.2 The SPE approach**

Unlike chain shift analysis, generative phonology linguists have struggled with the problem of formulating rules for years. Chomsky and Halle(1968) interprets GVS as an addition of rules in the Modern English system.

**Figure 4. The two branches of rule and their effects<sup>4</sup>**

$$[\alpha \text{ high}] \rightarrow [-\alpha \text{ high}] / \begin{bmatrix} \text{---} \\ -\text{cns} \\ -\text{low} \end{bmatrix}$$

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<sup>4</sup> Iggy, R. and W. Johnson. (2005). *A Course in Phonology*. London: Blackwell Publishing, 221-223.

$$[\beta \text{ low}] \rightarrow [-\beta \text{ low}] / \left[ \begin{array}{c} \text{---} \\ \text{-cns} \\ \text{-low} \end{array} \right]$$

i	e
↑↓	↑↓
e	æ

They propose that diphthongization and vowel shift rules were added to the grammar of English: high vowels were first diphthongized and subsequently non-low vowels under stress were subject to an exchange rule that turned high vowels into non-high vowels and non-high vowels into high vowels.

In the first part in figure 4, the value of the feature  $[\pm\text{high}]$  is inverted in non-low vowels. The restriction of the scope of the rule to non-low vowels is appropriately formalized by the inclusion in the environment of the specification  $[-\text{consonantal}]$  and  $[-\text{low}]$  (i.e.  $[i]$  and  $[e]$ ). In the second part, the value for  $[\pm\text{low}]$  is inverted in non-high vowels. Some examples are given below.<sup>5</sup>

(3) /i/ → e	div/i:/ne → div[e:]ne
/e/ → i	ser/e:/ne → ser[i:]ne

(4) /e/ → æ	div/e:/ne → div[æ:]ne
/æ/ → e	s/æ:/ne → s[e:]ne

#### 4. English short vowels and GVS

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<sup>5</sup> Lee, J. (2006). *The Great Vowel Shift in Optimality Theory*. Seoul: Sogang University, 16-18.

It has been found out that long vowels have passed through a drastic change in the course of the history in English, whereas short vowels have the stable history. But according to Lass (1999), short vowels also have the vowel shift: declination and centralization. Then, it is likely that long vowels shift and short vowels shift are perfectly symmetrical: while the former moved up and outward, the latter moved downward and inwards.

**Table 1. The distribution of English short vowels from 1400 to 1700**

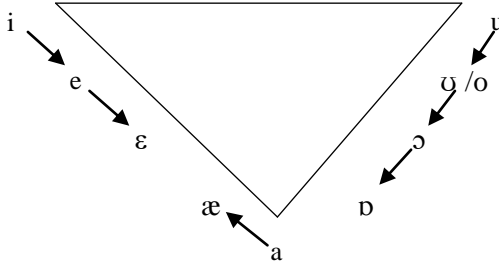
	1400	1500	1650	1700
High	i u	i u	i u	
High-mid	e o			i u
Low-mid		ɛ ɔ	ɛ ɔ	ɛ ʌ
Low	a	a	a	æ ɒ

As shown in the table 1, SVS is related to movements of back vowels, which are /a, u, o/. From the table 1, it can be suggested that the high-mid vowel [e] and [o] moved downward to low-mid position because there was empty space in low-mid position, and [i] and [u] moved downward to high-mid position because of empty space in high-mid position caused by declination of [e] and [o]. Meanwhile, [a] rose to [æ]. This phenomenon can be called Short Vowel Shift (hereafter as SVS).

SVS looks similar to GVS in many aspects, one of which is the upward movement of [a] to [æ] because like [i:] and [u:] in GVS which couldn't go upward any more and so were diphthongized, it couldn't go downward any more, so it rose slightly to [æ].<sup>6</sup> The whole process of SVS is summarized in Figure 6.

<sup>6</sup> According to Lass (1999), /a/ in ME rose slightly to /æ/ in EModE, because /a/ couldn't go downward any more in the vowel space. And /o/ in ME went downward to /ɔ/, which went to /ɒ/.

**Figure 5. Short Vowels Shift: declination and centralization**



**Table 2. Some examples of SVS in English<sup>7</sup>**

Middle English	Early Modern English			Late Modern English
	Stage 1	Stage 2	Stage 3	
o	dɔg	dɔg	dɔg	dog
u	kut	kut	kʌt	cut
a	hat	hæt	hæt	hat

This phenomenon is very similar to drag chain analysis in GVS, and to explain interrelated lowerings and centralizations of short vowels, SVS metarule schemata can be designed by modifying impulses and features in the Kubozono’s rule as follows.

**Figure 6. SVS metarule schemata**  
(adapted from Kubozono’s rule)

**SVS metarule schema 1**

- a. Impulse: no low-mid vowels
- b. Universal Well-Formedness Condition:  
No gap may be left unfilled in the vowel system
- c. Entailed Metarule

<sup>7</sup> Barber, C. (1997). *Early Modern English*. 2<sup>nd</sup> ed. London: Deutsch.



$$\begin{bmatrix} \text{V} \\ +\text{ATR} \\ -\text{long} \end{bmatrix} \rightarrow [+lower]$$

**SVS metarule schema 2**

- a. Impulse: no mid vowels
- b. Universal Well-Formedness Condition:  
No gap may be left unfilled in the vowel system
- c. Entailed Metarule

$$\begin{bmatrix} \text{V} \\ \text{high} \\ -\text{back-} \end{bmatrix} \rightarrow [+lower]$$

**SVS metarule schema 3**

- a. Impulse:

$$\begin{bmatrix} \text{V} \\ +\text{low+} \\ -\text{long} \end{bmatrix} \rightarrow [+lower]$$

- b. Universal Well-Formedness Condition:  
No vowel can be outside the vowel system
- c. Entailed Metarule

$$\begin{bmatrix} \text{V} \\ +\text{low} \\ -\text{long} \\ -\text{back} \end{bmatrix} \rightarrow [+raise] \begin{bmatrix} \text{V} \\ +\text{low} \\ -\text{long} \\ -\text{back} \end{bmatrix}$$

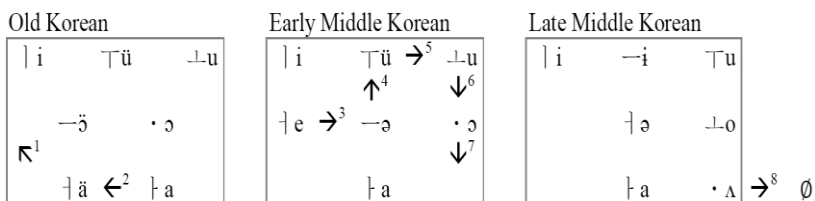
By SVS metarule schema 1, the declination of [e] and [o] toward [ɛ] and [ɔ] can be explained, and by SVS metarule schema 2, so can the declination of [i] and [ɔ]. SVS metarule schema 3 explains the upward movement of [a] toward [æ].

But SVS is not the same as GVS. First, there is no diphthongization in SVS, because unlike long vowels which have two timing tiers, every short vowel has just one timing tier. That's why short vowels can't turn into diphthongs. Second, in SVS there are two directions of movements - down and inward, unlike those up and outward in GVS; SVS doesn't show the outward movement. It just shows the tendency toward the mid-vowel shift. Lastly, SVS doesn't obey the principles of vowel shifting whereas GVS doesn't violate them.<sup>8</sup>

#### 4. Some examples similar to GVS in Korean

Some linguists, like KM Lee and WJ Kim, have argued until 1970's that there was GVS in Korean when comparing words used in Koryeo Dynasty between 13<sup>th</sup> and 15<sup>th</sup> centuries with Mongolian loanwords.

**Figure 7. Korean Vowel Shift (KM Lee 1961[1972])**



It is, however, not generally accepted nowadays, because, according

<sup>8</sup> Labov (1994:116) suggests three principles of vowel shifting; in chain shifts,  
 Principle I long vowels rise  
 Principle II short vowels fall  
 Principle II<sub>A</sub> the nuclei of upgliding diphthongs fall  
 Principle III back vowels move to the front.

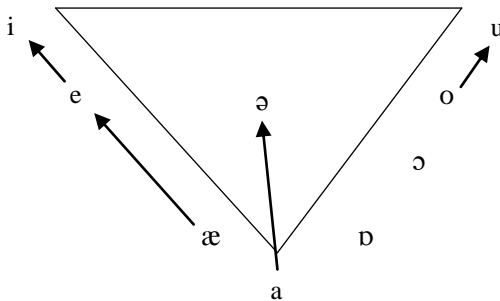
to SY Ko (2011), evidence shows that the original Mongolic vowel system is based on RTR contrast, and therefore, there is no reason to believe that Old and Early Middle Korean had a palatal system.

Nonetheless, some expressions used in Korean recently are very interesting because they seem to be similar to GVS. Some examples are suggested in the table 3. These expressions have one thing in common – the vowel shift upward, from [a] to [ə], [æ] to [e], [o] to [u], and [e] to [i]. This phenomenon is similar to SVS in English, but the direction of vowel shift is not the same. Rather, the direction is the same as GVS in English as shown in Figure 8.

**Table 3. Some expressions similar to GVS in Korean**

Vowel shifts	Examples	
[e] → [i]	yeppeda → ippeda	sesange → sisange
[æ] → [e]	kimmeagi → kimmegi	dwaeji → dweji
[a] → [ə]	hajiman → heojiman	hagiya → heogiya
[o] → [u]	motsaenggin → mutsaenggin	isoma → inuma

**Figure 8. Short Vowel Shift in Korean**



It's not possible, however, to conclude that Korean also has the GVS,

because examples presented above are not standardized Korean - indeed some of them are just dialects or accents. Moreover, they are short vowels, not long ones, and they are not dominant expressions. Though these expressions are used widely among people in Present Day Korean, they may be temporary expressions. So to prove whether these expressions can reflect GVS, it will take much time to prove that they may be the GVS in Korean.

## **5. Summarization**

The GVS, one of the interesting phenomena in English has several reasons for its occurrence, and they can be explained by some rules. The change affects only long, stressed vowels, not short vowels. And the same phenomenon can't be found in other languages such as French, German, including Korean.

However, two phenomena similar to GVS – that is, SVS in English and some examples in Korean similar to GVS – can be found, and 3 metarule schemata, which are modified from metarule schemata suggested by Kubozono, are formulated to explain one phenomenon – SVS in English.

The limitations of the paper are as follows. First, though SVS metarule schemata are newly introduced to explain SVS in English, these schemata have limitations since they can't suggest the reason why there was an empty space in low-mid position and what caused [a] to be lowered at first, therefore failing to generalize the SVS metarule. Second, this paper only shows some examples similar to GVS in Korean, but it can't doesn't show the reasons why they appear in Korean.

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