

# Restructuring of Paradigm in Irregular Verbs

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## 1. Introduction:

### An Analysis of Irregular verbs in the viewpoint of Diachronic Linguistics

1.1. Agglutinative languages such as Korean language and Japanese language show many morphological changes in the inflectional process between a stem and a grammatical ending. Irregular verbs of an agglutinative language also show structural similarities of some patterns. These structural similarities of patterns in the inflection of irregular verbs could be analyzed from the viewpoint of paradigm restructuring.

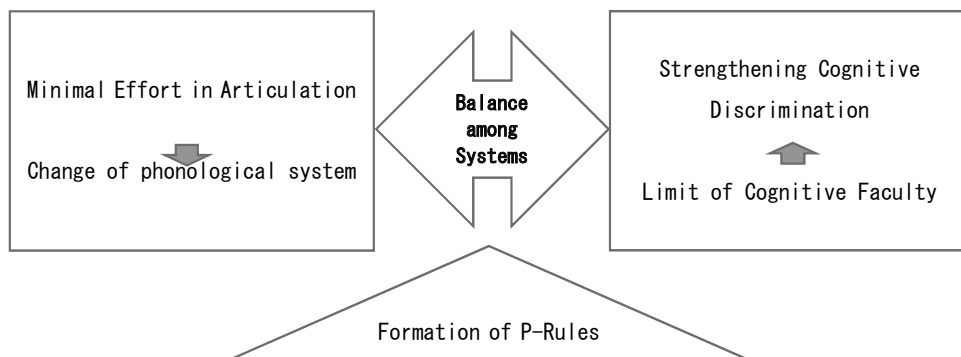
The irregular phenomenon is of great advantage to memorization in the cognitive-ability aspect, but beyond the limits of general cognitive ability it is put under pressure of simplification. If it can be admitted to indicate 'paradigm' as a kind of structural cognitive-framework, the paradigm is always put under the pressure of simplification. The paradigm is obliged to be constantly unstable between the interactions of both forces operating on language changes, that is, the principle of minimal effort and the principle of strengthening cognitive discrimination. The restructuring of paradigm in word-formation processes progresses for a long period of many generation shifts. The aim of this article is to analyze the mechanism of restructuring of paradigm from diachronic viewpoint, which functions in order to reduce cognitive load caused by the formation of irregularity

1.2. The formation-circulation process of morphological paradigm about irregular verbs correspond to the procedure seeking an equilibrium point. The procedure progresses by the interactions between minimal effort principle and discriminative strengthening principle. While sound change or a change of phonological system functions as a factor of destroying the balance state, the balance is redressed by cognitive ability which consists of the categorization and pattern-configuration faculties. The interaction procedures of both functions can be called the process of paradigm-restructuring. Among various causes of language change, analogical change which redresses irregularities is considered to be a part of cognitive faculties. The processes of sound changes are to be formulated as phonological rules from a diachronic viewpoint. As shown in Figure 1, the relationship between the two forces concerning language change can be schematized.

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Fig. 1



The purpose of diachronic linguistics is to reveal the causes and the processes of language change. As a result of diachronic investigations, we can understand and estimate the direction of language change. If we understand the causes and formation processes of the irregularities, we can also confirm the direction of changes. It could be applied to practical purposes of description of grammar and language learning. The conjugation phenomena of irregular verbs of an agglutinative language are analyzed as a concrete case.

## 2. Patterns of Irregularities and the Process of Restructuring of Paradigm

2.1. Irregularities have a tendency to be increasing in proportion to usage frequency. Irregularities can be only accommodated into lexicalization and grammaticalization within the capacity range of cognitive faculty. Irregularities beyond accommodation capacity of cognitive faculty have to be assigned to regularization or restructuring process. With decreasing entropy of irregularities, it causes categorization action which makes it regular, that is, the action of cognitive faculty. Between the pressure of increased irregularity and power of maintaining pattern, recovering process of the latter corresponds to the process of restructuring of paradigm. The process of restructuring of paradigm means mere the recovery of balance state. In the procedures of restructuring of paradigm, both innovation form newly formed and relic form remained can be co-exist. Such a state of co-existence corresponds to the conjugation of irregular verb. In such a case, it is the general tendency that the relic form is almost replaced by innovation form. It is possible to manipulate retrogressive changes from the usual direction of changes. For example, the relic form can be restored by the effect of learning. But the retrogressive change cannot occur in the cases of inner-language changes because the primary cause of irregularities is the change of phonological system, and which causes secondary changes following after it. Sound change or change of phonological system cannot be controlled by an artificial manipulation.

2.2. In such a case that the syntagmatic relation between verb stem and verb ending consist of allomorphs which can be explained with only synchronic phonological rules, it would be called

regular verb. On the contrary case it is called irregular verb. To begin with, irregular verbs of contemporary Korean language would be analyzed in order to understand patterns of irregular verbs.

2.2.1. First of all, diachronic change of phonological system is an important cause in the process of formation of irregular verbs. Examples of stem-final 'p', 't', 's'<sup>2</sup> are analyzed.

(1) [kup-ta]<sup>3</sup>: /ku~~p~~-kko/<sup>4</sup> /ku-weo/<sup>5</sup>

[top-ta]: /top-kko/ /to-wa/

(2) [keot-ta]: /keot-kko/ /keo-reo/

[sit-ta]: /sit-kko/ /si-reo/

(3) [cit-ta]: /cit-kko/ /ci-eo/

[it-ta]: /it-kko/ /i-eo/

The main cause of emergence of irregular verb is due to a change of phonological system. The examples of (1), (2), (3) show us that the extinguishment of voiced consonant sound had occurred at one time of past, and a specific pattern of a group of irregular verbs has formatted at present. The extinguishment of voiced fricatives of /β/, /ð/, /z/ of central Korean dialect has left their traces behind irregular stems. This means the stem has two or several variations in its lexical part. In other words, the irregularity of this pattern has gone through lexicalization that dual or multiple underlying forms in one verb stem are alternated automatically according to morphophonemic rule. In this pattern of irregularity, regularity might be easily recovered to renovation form. The clues of regularization is chiefly observed at dialects and the early stage of language learning. Dialectal forms already has shown single regularized forms as (2) /sir-kko/ /si-reo/, /tou-ko/ /tou-a/.

These examples show the tendency of language change that old forms is to be replaced by renovation forms.

2.2.2. A change of phonological rules is also a cause of formation of irregular verbs. Example of stem-final 'r' is analyzed.

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<sup>2</sup> Stem-final 's' is not realized as a phoneme in fact. It is merely a reference mark originated from a relic form.

<sup>3</sup> [ ] means basic form or dictionary form.

<sup>4</sup> / / means the description of phoneme level.

<sup>5</sup> /kk/, /kh/, /eo/, /eu/ mean fortis sound, aspirated, -high-back vowel, +high-back vowel, in order.

(4) [nor-ta]: /nor-ko/ /nor-a/ /no-ni/ /non/ /nop-si-ta/ /no-si-ta/ /no-o/

[tung-keur-ta]: /tung-keur-ko/ /tung-keur-eo/ /tung-keu-ni/ /tung-keun/ /tung-keup-si-ta/  
/tung-keu-si-ta/ /tung-keu-o/

The change of property of phonological rule had made irregular verb. The narrowing of range of rule application was the cause of formation of this pattern of irregularity. The phonological rule that /r/ deletes before dental sounds has extinguished at present. The renovation is going on as like /no-reun/, /no-reup-si-ta/ etc.

2.2.3. Changes of syllable structure and syllable boundary are a cause of formation of irregular verbs, too.

2.2.3.1. As a result of adjustment of syllable structure(the case of 'contraction'): the example of stem-final 'h'

(5) [keu-reoh-ta]: /keu-reot-kho/ /keu-rae/ /keu-reo-ni/ /keu-reor/ /keu-reo-myeon/ /keu-reo-o/

[kka-mah-ta]: /kka-mat-kho/ /kka-mae/ /kka-ma-ni/ /kka-mar/ /kka-ma-myeon/ /kka-ma-o/

The contraction of compound verb formed by pro-verb 'ha-ta' shows partly the same pattern of irregularity of 'ha-ta'. The direction of renovation is likely dependent on change of pro-verb 'ha-ta'.

2.2.3.2. As a result of adjustment of syllable structure(the case of 'insertion')

(6) [i-reu-ta]: /i-reu-ko/ /i-reu-reo/

[phu-reu-ta]: /phu-reu-ko/ /phu-reu-reo/

In this pattern, the syllable /reu/ is inserted in order to strengthening discrimination. A regular pattern of (6) is supposed to be /i-reu-ko/ and /i-reo/. The expected renovation form would be the single stem of /i-reu-reu-ta/, too. As this type of restructuring is considered the effect of strengthening discrimination principle, the diachronic procedure of this pattern of formation needs to be examined closely.

2.2.4. Sound insertion following after sound change is a cause of formation of irregular verbs.

(7) [o-reu-ta]: /o-reu-ko/ /or-ra/

[pu-reu-ta]: /pu-reu-ko/ /pur-reo/

In this case, it is certain that the renovation would move toward new form, /or-reu-ta/ and /pur-reu-ta/. The changes of articulatory habits have affected the syllable structures and formed an irregularity.

2.2.5. Typical irregular verb like pro-verb is formed in order to strengthen cognitive discrimination.

(8) [ha-ta]: /ha-ko/ /*hae*, ha-yeo/

Heavy frequency in use is supposed to support the maintenance of irregularity. The renovation form /*hae-ta*/ is observed at dialects.

2.2.6. Although the examples below look like irregular at present as a result of changes, the examples could not be considered irregular verbs. After the application of phonological rule assimilating /eu/ to /u/ after sound with [+round] feature, the example (9) acts as irregular verb now.

(9) [phu-ta]: /phu-ko/ /*pheo*/

(10) [tteu-ta]: /tteu-ko/ /*tteo*/

The example of (10) cannot be regarded as irregular verb because it can be explained as synchronic rules. The example of (9) is a relic form which is formed by extinguishment of phonological rule.

2.2.7. Irregularity as a relic form of grammatical morpheme remains in the paradigm of grammatical endings. As it appears only as a conjugation of a specific verb, it could be dealt with fossil forms.

(11) [ka-*keo-ra*]  
[ca-*keo-ra*]  
[o-*neo-ra*]

### 3. Concluding remark

The cognitive procedures like categorization and patternizing method among the cognitive methods toward the universe and things have deep influences upon the processes of grammaticalization within language competence. Analyzing the patterns of irregular verbs from the diachronic viewpoint allows us to explain that the process of restructuring of morphological paradigm corresponds to the circulating interaction- process between the changes of language system and cognitive faculty. The continuous interactions of both principles in the course

of restructuring of paradigm have been confirmed with the examples of irregular verbs of contemporary Korean language. The direction of restructuring was also confirmed. The effect of renovation become a cause of another change.

### ***References***

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**Abstract**

## **Restructuring of Paradigm in Irregular Verbs**

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The aim of this article is to analyze the mechanism of restructuring of paradigm from diachronic viewpoint, which functions in order to reduce cognitive load caused by the formation of irregularity. Irregular verbs of an agglutinative language show structural similarities of some patterns. These structural similarities of patterns in the inflection of irregular verbs could be analyzed from the viewpoint of paradigm restructuring. As an example, irregular verbs of contemporary Korean language was analyzed in order to understand patterns of irregular verbs.