Two Kinds of Unique Vowel Reduction Processes in Sistani Dialect of Persian (Rule-Based Approach)

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Abstract— Sistani dialect is an original dialect of Persian. It seems to originated from Indo-European languages. So in the world, many different scholars worked on the dialect. It has so many different with standard Persian that surveying them can help us for recognizing the main langueges in all over the world. Thereinto, Sistani dialect has some similarity to English that it is difference point from Persian. For example using ә in Persian is much less but in Sistani dialect, we use ә too much and in this paper, will survey vowel reduction processes in this dialect that have two phase. Two phase occur respectively that the papar will describe them with Rule-based approach.

Index Terms— Centralization, ә -deletion, Persian dialects, Rule-based approach, Sistan, Sistani dialect, Syncope, Vowel reduction

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1 INTRODUCTION

One of the different aspects of Persian language varieties of Iran (so-called "local species") with standard Persian is widely simplification that observed in phonetic systems of these species. In many species assimilation, dissimilation, delete, insert, inversion processes and etc, act so widely and the output operation cause to eliminate many vowels. speakers of the dialects save their energy and this saving have less effect on relationship. We research vowel reduction in Sistani dialect that observe so much in this dialect. Vowel reduction is a kinds of simplification and shortening vowels

2 Observed

When we compare Sistani dialect with the standard Persian dialect, Sistani dialect instead of short vowels use ә or ɒ.Usage of ә is very much in this dialect. So we should have some process to obtain forms of Sistani dialect. This paper want to prove acting of 2 rules in mentioned dialect by generative phonology and show the deep structure and surface structure.

hypothesizes:

1- In Sisatni dialect, merely ɑ,e,ɒ vowels can be shorten.

2- Shortening processes in mentioned dialect are centralization rule and deletion rule.
This research intend with theoretical testing and methodological equipments attempt to prove the hypothesizes.

3 Theory and Methodology

Rule-Based phonology compete with other theoretical-methodological approaches but this part has so different with other modern linguistics. For the first time, N. Chomsky and M. Halle(1992) render a pattern. This pattern was Standard Generative Phonology Pattern. Their classic written was "the Sound pattern of English", SPE. Standard generative phonology is apex of Rule-Based phonology (kenstowics,1994:7).
In generative pattern, grammar phonetic domain is *interpretive* domain and has phonological rule sets that act on underlying representation UR conventionally and after some rules make phonetic representation PR.
In UR, there are idiosyncratic information and in PR, there are predictable and regular information.(Roca and Johnson, 1999:48)

A general phonologist should consider following concepts:
1-PR observing and defining regular phonetic data.
2-UR discovering
3- formulating phonological rules
4-expressing UR and PR relationship

4 Underlying representation discovering

a-corpus internal evidence
b-five criteria of underlying representation discovering
c-corpus external evidence

4-1 corpus internal evidence

These evidences can be observed in language corpus naturally and have three principles:

First principle

Every underlying representation form parallel with one and just one phonetic representation and conversely. If we see parallel one to more than one, so we have alternation.

Second principle

Every underlying representation coincide with parallel phonetic representation in phonetic data.

Third principle

If changing in pronunciation don't depend in text, it depend in history of phonetics and they act irregular. So there isn't any alternation.

4-2 Five criteria of discovering underlying representation

a-frequency of occurance:

when a side of alterations occur more and in different environment of phonetics, it is UR.

b-phonetic plausibility:

when the rule of a side of alterations to other is more logic and plausible, the side is UR.

c-phonological naturalness:

when the rule of a side of alterations to other is more natural and precedented, the side is UR.

d-universal tendencies:

when a side of alternation can use independently, it is UR.

e-phonological predictability:

when a side of alternation can be predictable, it is UR

4-3   corpus external evidence

Some of the evidences are:
a-orthography errors
b-changing in pronunciation of loan-words
c-slip of tongue and ears
d-writing systems
e-extreme generalization and correction
f-language games

5 Phonological rules

Phonological rules are operations upon strings of feature matrixes. Each rule assigns one or more feature specifications to a matrix when the matrix appears in a certain context.

A rule is drown as below:
A   →   B   /   C   —   D

According to kenstowics (1994), left side of the rule,(A and C) are Structural description(SD) and right side (B and C) are Structural Change (SC). The right side of means the changes that occur in the texture.

6 linear derivations:

Chomsky and Halle introduce two representation levels. First UR and second PR. For having PR, occur some rule on phonemes as see below:
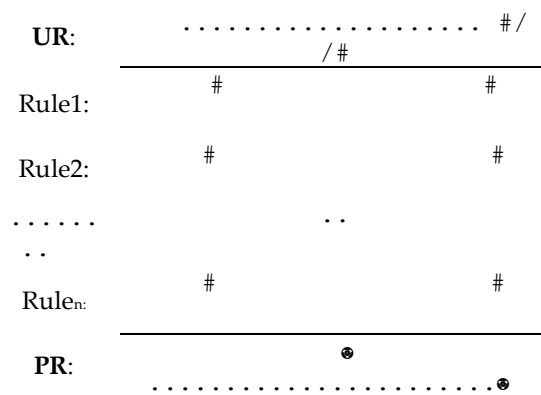
7   Potential Interaction of Phonological Rules

Generative phonology has four interaction relations between A and B rules:

1-Feeding interaction

This interaction occur when A-rule provide a situation for acting B-rule, so A-rule feed B-rule.

2-bleeding interaction

This interaction occur when A-rule prevent from doing B-rule. It means A-rule bleed B-rule.

3-counter feeding Interaction

When A and B rules don't have any effect on each other but if be inversed, will be provide the field of acting A-rule. It means A-rule and B-rule have counter feeding interaction.

4-counter bleeding Interaction

When A and B rules don't have any effect on each other, but if be inversed, B-rule prevent from acting A-rule. It means B-rules and A-rule have counter bleeding interaction.

8 Question

In this part we will demonstrate performing vowel reduction in Sistani dialect. At first observe some example in mention dialect in contrast to Persian.
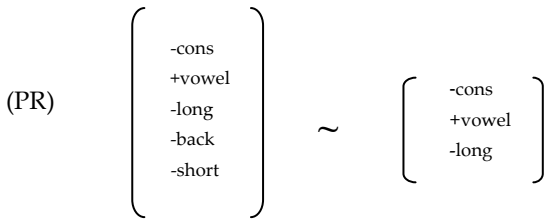
TABLE 1
EVIDENCE IN SISTANI DIALECT

Sistani	Persian	Row	Sistani	Persian	Row
pseə ə	boy	10	n(ə)+phq ə r+ı	Don't jump	1
phjaə dq ə	Ped	11	n(ə)+ĸwhoə sth+q	They haven't killed	2
thmq ə	greed	12	n(ə)+tshqə sh+id+ ə	I Haven't clipped	3
thrə qə ĸh	leaving	13	n(ə)+zqə pə phol n+ı	Don't hit	4
ĸhmqə r	Loin	14	b(ə l)+naə l	whimper	5
drшoə s	Correct	15	b(ə)+tshılə nə +d ə	clippedhe	6
draə z ə	long	16	b(ə)+ʜaə ə	Eat	7
ʜnqə ĸh	Cool	17	b(ə)+shq ə	It became	8
ə dhqlə m	foot-step	18	b(ə)+rq: ə	He went	9

8-1 Centralization:

The first process is centralization of short vowels 'q,e,o' and altering the vowels to central vowel ə .

According to our instance corpus, we have following alternation:

$$
(PR) \quad
\begin{bmatrix}
\text{-cons} \\
\text{+vowel} \\
\text{-long} \\
\text{-back} \\
\text{-short}
\end{bmatrix}
\sim
\begin{bmatrix}
\text{-cons} \\
\text{+vowel} \\
\text{-long}
\end{bmatrix}
$$

We will demonstrate UR with generative phonology principles:

Frequency of occurance:
q,e,o in Sistani dialect are found in more variety condition. So they can be UR.
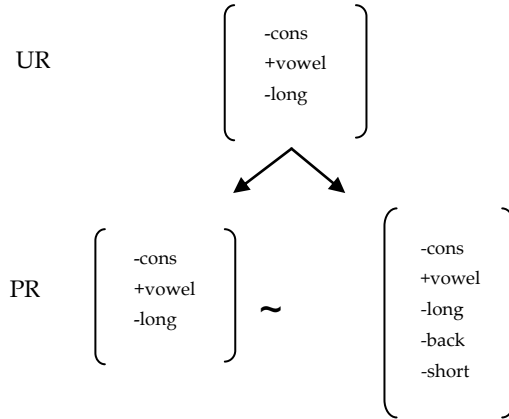
Phonetic plausibility:
The rule of alteration q ,e , o to ə is more logic. So q, e, o can be ə UR.
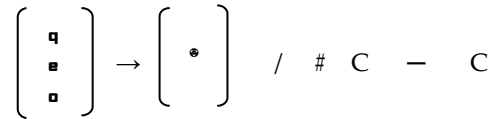
Phonological naturalness:
The rule of alteration q ,e , o to ə is more natural. So so q, e, o can be UR.

Universal tendency:
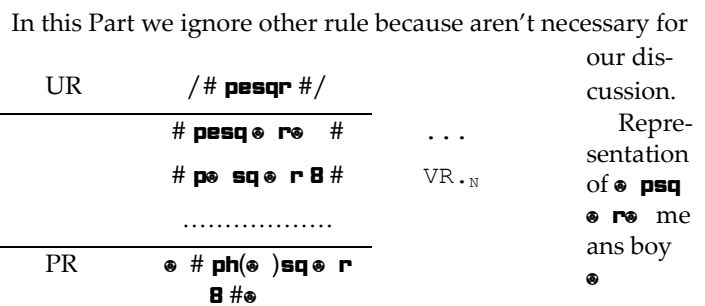When a side of alternation can be used independently in language, it is UR. So q, e, o can be UR.

So alternation can be :

$$
\text{UR} \quad
\begin{bmatrix}
\text{-cons} \\
\text{+vowel} \\
\text{-long}
\end{bmatrix}
$$

$$
\text{PR} \quad
\begin{bmatrix}
\text{-cons} \\
\text{+vowel} \\
\text{-long}
\end{bmatrix}
\sim
\begin{bmatrix}
\text{-cons} \\
\text{+vowel} \\
\text{-long} \\
\text{-back} \\
\text{-short}
\end{bmatrix}
$$

8-1-1 Centralization rule:

$$
\begin{bmatrix}
q \\
e \\
o
\end{bmatrix}
\rightarrow
\begin{bmatrix}
ə
\end{bmatrix}
\quad / \quad \# \quad C \quad \underline{\quad} \quad C
$$

8-1-2 linear derivation:

In this Part we ignore other rule because aren't necessary for our discussion.

Representation of ə psq ə rə means boy ə

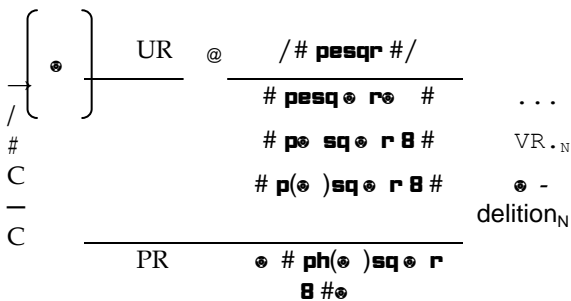| UR	/# pesqr #/	
	# pesqə rə #	. . .
	# pə sqə r ʙ #	VR·$_N$
	………………	
PR	ə # ph(ə)sqə r ʙ #ə	

8-2 ə -deletion(syncope)

In mentioned dialect after centralization rule, occur ⊛ - deletion(syncope). In this rule central vowel will be omitted. The vowels should have three limitations. The vowel should:

1-Be unstress vowel
2-Be **q, e, o**
3-deletion occur on ⊛

8-2-1 ⊛ -deletion rule:

8-2-2   linear derivation:

Representation of ⊛ **psq⊛r⊛   means boy**:

8-3   interaction phonological rule

We have two rules in vowel reduction process. The first is centralization and second is ⊛ - deletion(syncope). Between this rules, there is a interaction relation that is feeding interaction. It means first rule feed second rule and the first provide condition for acting the second.

Centralization > ⊛ - deletion(syncope)

9 discussion

Sistani dialect is very important dialect in Persian, so many foreign and Iranian scholars focused on it. All we write here can be developed and describe syllabic structure and stress structure of it. In later researching they will be explain for more familiarization.

10 conclusion

In Sistani dialect vowel reduction process is very usable especially in the beginning of words. The process occur in two phases. The first is centralization and second ⊛ - deletion(syncope). We deduced it according to generative phonological approach. This processes act different from Persian. So in Persian don't act this type of vowel reduction.

11   References

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