

# Coastal Hadhrami Arabic Intensive Verb Patterns: An Optimality Theoretic Analysis

Amel Ali Salim Belleswed\*

Hassan Obeid Alfadly\*\*

Received: 28/12/2020

Accepted: 8/8/2021

## Abstract

Based on the Optimality Theory (OT), this research investigates morphologically the intensive verb patterns in Coastal Hadhrami Arabic collecting their data from Mukalla and shihr only. It has been found that a set of markedness and faithfulness constraints interact to assign the intensive verbal configurations of CHA: syllable structure constraints and alignment constraints. The analysis shows that nearly all the stems of CHA intensive verbs are completely different from their equivalent intensive verbs in Standard Arabic. As they are commonly derived verbs their analysis depends mostly on Reduplication Theory in which the alignment constraints modify the prosodic structure of the verb either by changing the vocalic pattern or by affixation.

**Key words:** Coastal Hadhrami Arabic, Optimality Theory, syllable structure constraints, alignment constraints, Intensive verbs.

## 1.0 Introduction:

Hadhramout is a district on the south-eastern region of Yemen between Al-Mahra governorate in the east and Shabwa governorate in the west, extending north inside Al Ruba Al Khali desert. It has an area of 155,400 square kilometers containing a large part of the South -eastern coast in the Republic of Yemen, extending along the Gulf of Aden to Al Mahra governorate, in addition to an interior plateau. ( Bahameed, 2007). Consequently, it consists of two main areas: coast and the valley. According to the last census of (2004) the number of its populations reached 1028548 (Ibid; AL-Alawi, 1980).

The capital city of Hadhramout is Mukalla. It is located astronomically in the intersection of 14.32 latitude, north of the Equator, and 48.8 longitude, east of Greenwich. (Babuair, 2012as cited in Britannica Atlas, p.134). Shihr is another town located on the coast of the Arabian Sea. It is about 62 kilometers east the city of Mukalla. Some call it (Souad and Samoun). It is one of the historical cities in Hadhramout. (Al Muhummedi ,2017).

Although the official language of Yemen is Standard Arabic many Arabic varieties are used in everyday speech along the areas of Yemen. According to National Information Centre, Hadhrami Arabic which is one of the main four Yemeni Arabic dialects, is spoken in Hadhramout area (Ahmed, 2010). It is also used

by the migrant Hadhramis who settled in different areas in Asia and Africa. Hadhrami Arabic has its main significance across the history of Yemen and the Arab world (Al-Saqqaf, 2006; Bin Mahfouz, 2013).

The governorate of Hadhramout is divided into two areas: the coast and the valley. Accordingly, Hadhramout Arabic is also subdivided into two main dialects: Coastal Hadhrami Arabic dialect (CHA ) and Valley's Hadhrami Arabic dialect (VHA), though there are also other dialects of spoken Arabic under each division (Ibid, Al-Saqqaf,1999, Babuair, 2012). This study investigates the main forms of intensive verbs only in the urban dialect of CHA in the two main urban centers along the coast of Hadhramout: Mukalla and Shihr.

## 1.1 The Statement of the problem

CHA as a variety of Hadhrami Arabic has been exposed to many factors that affected the original dialect. This threatens, in fact, CHA as it makes some linguistic change on either the phonological or the morphological features of CHA.

It is a matter of fact that the number of the population who speak the original CHA has decreased in comparison with the past because today there are many Hadhramis settled in Mukalla and Shihr with different linguistic backgrounds. Moreover, Hadhrami community has witnessed great progress in the all aspects of life such as education, health, media and technology that affected the original CHA and finally, the number of the children who speak the original dialect, as it is, is decreasing in the

\* Teaching assistant at English Department-Faculty of Arts Hadhramout University.

\*\* Professor at English Department-Faculty of Arts Hadhramout University.

recent years. All these factors have great effect on the phonological and the morphological features of CHA. In fact, CHA is one variety of Standard Arabic that has not studied thoroughly and therefore, this study will bridge a gap in literature.

**1.2 The Purpose of the Study:**

This study is set to answer the two main research questions

1. How are the common verbal patterns of CHA intensive verbs are formed?
2. What are the optimal morphological Stems of CHA intensive verbs?

**1.3 Significance of the Study:**

The main significance of this study lies only in the following points:

- 1) It investigates and document CHA intensive verb patterns.
- 2) It employs the Optimality theory in the analysis.
- 3) It provides raw materials that may be used by other researches
- 4) It provides fruitful data which feed and enrich Yemeni and Arabic studies of language and new information in the field of Semitic linguistics.

**2.0 Literature Review:**

**2.1 Optimality Theory:**

Generally in 1993 Alan Prince and Smolensky proposed a new approach, known as Optimality Theory through their famous book *Optimality Theory: Constraint Interaction in Generative Grammar* (Prince and Smolensky, 2004). OT is non derivational a constraint based approach which stimulated many researches in the field of phonology and later its impact stretched to morphology, syntax, semantics, sociolinguistics and historical linguistics and other areas ( Kager, 2004; McCarthy, 2007 ).

There are main components that constitute the foundation of OT. First, Gen (short for Generator) produces a number of potential and unlimited candidates from a specific underlying

form. Thus, it creates an ambience for competition; these potential outputs compete with the actual output (also known as optimal). Since Gen is universal it is in the charge to produce “candidates varied enough to fit all of the ways in which languages can differ” (McCarthy, 2002: p. 8). The other elements of OT is Eval (short for Evaluator), the function that checks each and every candidate produced by Gen against the ranked set of constraints and evaluated in parallel. The most harmonic output which violates constraints very minimally or satisfies high ranking constraints at the expense of violating the lowest ones is selected as the winner (McCarthy 2008; Elramli, 2012; Al-Aghbri, 2012). Therefore, the basic architecture of OT is as follows as cited in (Elramli, 2012; p.48) :

/Input/ → Gen → {cand1, cand2, ... candn} → Eval → [output]

The evaluation process in OT is shown by a grid known as a tableau as shown in tableau 1 in which the input is put on the top row, followed by the constrains, starting with the highest ranked constraints that occupy the leftmost position; the importance of the constraint diminishes as the constraint moves down to the right-hand side. Constraints are separated either by solid lines if they have different ranks or dotted lines if they are equally-ranked constraints. The candidates are placed in the leftmost column, in cells just under the cell of the input: one of these candidates is selected as the actual and the optimal output form, indicated by a pointing finger. An asterisk is conventionally used to indicate a violation of some constraint (the more the violations, the more the asterisks); fatal violation is indicated by means of an exclamation mark. Moreover, some cells are shaded to show their irrelevance to determine the output of the comparison at hand (McCarthy and Prince, 1994; Elramli, 2012).

**Tableau 1: The evaluation process in OT**

input	CON1	CON2	CON3	CON4
a. Candidate a			*	**
b. Candidate b		**		*
c. Candidate c	*!		**	
d. Candidate d		****	*	

In fact, there are two major families of constraints: Markedness and Faithfulness Constraints. In any language, the conflict

between Markedness and Faithfulness constraints is settled through a fixed ranking which gives priority to either Markedness or Faithfulness.

The constraints on output forms are called markedness constraints whereas faithfulness constraints prohibit differences between input and output (Ibid; McCarthy, 2008). This study uses a number of alignment constraints as ALIGN L and ALIGN R and syllable constraints: markedness constraints as ONS and \*COMPLEX and faithfulness constraints as MAX-IO and DEP-IO.

## 2.2 Previous Studies:

The number of the works carried on the morphological aspect of Hadhrami dialect is limited in comparison with other Yemeni dialects. Walter (2003) investigated lexically and morphologically the Arabic language game in Hadhramout. His analysis showed that there is a language game is widely spread amongst "market people" in the coastal city of Mukalla. Al-Saqqaf (1999) studied the morphology of VHA. It is to be the only full work on the morphological aspect of VH though Al-Saqqaf in this work frequently referred to some linguistic aspects of the coastal dialects. He described the dialect in the two main urban centres in the valley of Hadramout: Seiyun and Tarim. His study concluded that VHA is a rich with nominal and verbal morphological characteristics, for example, the pronoun system of VHA is marked for gender and number and its verb system is used to denote two aspects; the perfective ( non-progressive) and imperfective ( progressive) aspects.

Regarding CHA, the researcher experienced the scarcity of morphological studies except the study of Bamakhrama (2009) who made an OT analysis on the syllable structure, superheavy syllable and syllabification and drew a comparison between three different varieties: Classical Arabic, Meccan Arabic and Hadhrami Arabic spoken in Ghayl Bawazir. The OT analyses presented in his study have relied on a relatively large number of constraints some of which were a more specified version of a common constraint, e.g.the constraint DEP was divided into DEP-C and DEP-V. In addition, Al Tairi (2010) discussed the consonant clusters in Mukallaene dialect. His study gave preliminary observations and analysis within Optimality Theory. It has been found that in this dialect, the consonant clusters occur as onsets in the syllable, but not as codas. Complex codas are prohibited and are separated by an epenthetic vowel.

The last study conducted in CHA is that of Babuair (2012) who described in details the phonological and morphological deviation of

some modern Arabic dialects from Standard Arabic, taking in to account the coastal dialect of Mukalla as an example. His study was written in Arabic and showed how some words in Mukalla dialect are completely different from its equivalent words in Standard Arabic lexically, phonologically and morphologically.

## 3.0 Research Methods:

In this synchronic descriptive study, the qualitative approach was adopted in data collection. The study was conducted during nearly a year, starting from May 2018 up to March 2019. The data elicited through fieldwork within Hadhrami society in which the researcher has basically depended on ethnographic approach. The sample was selected through the method non-probability and purposive sampling where 10 people were chosen to represent the key informants according to certain features: they are between (50-70) years old, they are uneducated and they did not immigrate. In addition, there were also 60 different people as normal informants. The key informants were selected from the old regions in both cities. The researcher also has used a structured oral morphology questionnaire adopted and developed from Dahl's (1985), Hancock's (1987), Bouquiaux, and Thomas' questionnaires (1992) and Alfadly's (2007). There data were analyzed by using the Reduplication Theory within the framework of the Optimality Theory.

## 4.0 Results and Discussion:

### 4.1 CHA Intensive Verbal Stems:

Arabic and its dialects follow the root and pattern morphological approach .This means that any verb in Arabic consists of:

"...a combination of two morphemes a sequence of consonants or radicals referred to as the root, and a significant pattern of vowel (and sometimes consonant) phonemes into which the root consonants are slotted." (Beeston 1970, p.31).

This means that the verb in Arabic consists of two main components: consonantal root, radicals and vocalic patterns, vowels. The consonantal root carries the semantic properties of the word and vocalic melody combines with the consonantal root leading to the formation of CV patterns (Al-Saqqaf, 1999: Dandane, 2007). It is worthy to mention that the infinitive form in Arabic is represented by the perfective verbal stem in the third person masculine. In this study, the word stem is used to refer to the consonantal structure and patterns to both consonantal structure with vocalic melody. Thus each stem has many patterns.(Ibid)

In general, the Semitic languages are characterized by a distinctive group of verbs called intensive or frequentative verbs, such as Tigrinya (Rose, 1997). These verbs denote the meaning of intensity and exaggeration. Although Standard Arabic does not show preference of using intensive verbs except for Stem IX, CHA has three ways to formulate these forms of verbs. The first group of these verbs undergo a change in the vocalic pattern of Stem I where /ɔ:/

is infixed after the first consonant. In the second case of forming intensive stem, the infix /-wə-/ is inserted to the form of Stem I. The third forms of these verbs are as result of reduplication process made in Stem I exactly bi-consonantal geminated verbs and tri-consonantal verbs.

It is a matter of fact that not all the verbal Stems I have correspondent intensive verbs especially intransitive ones. These three patterns of CHA intensive verbs are shown in table 1.

**Table 1 :The patterns of intensive verbs**

Verbal pattern	Intensive verb	Glossary	Type of derivation
C1ɔ:C2VC3 C1ɔ:C2iC3	/ħɔ:.lib/	“he milked several times”	Derived from Stem I by inserting /ɔ:/ after the first consonant of /ħləb/ “he milked”
C1ɔ:C2VC3 C1ɔ:C2iC3	/kɔ:.dib/	“he made too many lies”	Derived from Stem I by inserting /ɔ:/ after the first consonant of /kdəb/ “he told lies”
C1ɔ:C2VC3 C1ɔ:C2uC3	/ʃɔ:.rub/	“he drank excessively”	Derived from Stem I by inserting /ɔ:/ after the first consonant of /ʃrub/ “he drank”
C1ɔ:C2VC3 C1ɔ:C2uC3	/lɔ:.ʃub/	“he played repeatedly”	Derived from Stem I by inserting /ɔ:/ after the first consonant of /lʃəb/ “he played”
C1VC2wəC3 C1aC2wəC3	/bak.wəj/	“he cried excessively”	Derived from Stem I by inserting /wə/ after the second consonant of /bkə/ “he cried”
C1VC2wəC3 C1aC2wəC3	/ʃas <sup>ʕ</sup> .wər/	“he moved round and round all the way”	Derived from Stem I by inserting /wə/ after the second consonant of /ʃs <sup>ʕ</sup> ər/ “he moved in a rounded manner”
C1VC2C1VC2 C1aC2C1əC2	/farfer/	“he fled many times”	Derived by reduplicating Stem I, bi-consonantal verb /ʃər/ “he fled”
C1VC2C1VC2 C1aC2C1əC2	/χarχər/	“it leaked many times”	Derived by reduplicating Stem I, bi-consonantal verb /χər/ “it leaked”
C1VC2C3VC3 C1aC2C3əC3	/ʃaʃləl/	“he ignited fire”	Derived from verb Stem I /ʃəl/ “he ignited fire”
C1VC2C3VC3 C1aC2C3əC3	/raɣ.dəd/	“to hit someone intensively”	Derived from verb Stem I /rɣ.əd/ “to hit someone”
C1VC2C1VC3 C1aC2C1əC3	/ʃarʃəħ/	“to shout and insult someone severely”	Derived from verb Stem I /ʃrəħ/ “to guard; to make annoyed noise “
C1VC2C1VC3 C1aC2C1əC3	/gargəħ/	“to make an intensive sound like a bomb”	Derived from verb Stem I /grəħ/ “to make the sound like that of a bomb”

#### 4.2 OT analysis of Intensive Verbs:

The first two forms are formed by the affixation process to Stem I while the third form is as a result of reduplication process in Stem I. Moreover, the third is further divided in to three forms: the first is created by reduplicating the

first consonant of bi-consonantal geminated verbs, the second is formed by reduplicating the third consonant in tri-consonantal verbs and the third results from reduplicating the first consonant in tri-consonantal verbs.

In the first main type of intensive verb, the affix

/ɔ:/ is infixed to tri-consonantal verb. The main constraints used in this analysis are which presented by Prince and Smolensky (2008) are as follows:

ONS: each syllable must have an onset.  
 \*COMPLEX<sup>ONS</sup>: a syllable must not have more than one onset segment.

In addition, another additional faithfulness constraints is needed in this analysis:

DEP-IO: every segment of the output has a correspondent in the input.(Prohibits phonological epenthesis.) (kager, 1999)

Moreover, Another important constraint is to play here is CONTIGUITY –IO which ensures the same strings of segments in both the input and the output. In other words, there is no medial epenthesis or deletion of the segment.( Ibid)

An alignment constraints is also important here . It is ALIGN-L ( Aff , PrWd) as proposed in McCarthy and Prince (1993).

ALIGN-L ( Aff, Pr Wd): affix is aligned with the left edge of the prosodic word.

As the reduplicant here is the affix /ɔ:/, thus this constraint becomes:

ALIGN-L (ɔ:, Pr Wd): /ɔ:/ is aligned with the left edge of the prosodic word.

The resultant form possesses C1VVC2CVC3 which indicates the higher position occupied by the constraint ONS, followed by \*COMPLEX<sup>ONS</sup>

. As this affix is aligned to the left of the head in the prosodic word, then the constraint ALIGN-L (ɔ:, Pr Wd) comes immediately after \*COMPLEX<sup>ONS</sup> in the constraints hierarchy. Then CONTIGUITY-IO appears to play here. At the bottom of the hierarchy, the constraint DEP-IO stays as it is violated much due to the affixation process. Therefore, the constraints hierarchy is arranged as follows:

ONS>>\*COMPLEX<sup>ONS</sup> >> ALIGN-L (ɔ:, PrWd)>> CONTIGUITY-IO>> DEP-IO

Tableau 1 clarifies how the evaluation process takes place in order to select the optimal output of this verb. There are some candidates where candidate (a) satisfies the three constraints in the ranking. Therefore, it is the optimal output. The other candidates fail to achieve the same success as the candidate (a) does, so they are not optimized.

**Tableau 2 : OT analysis of the first main type of intensive verbs**

Input:/ɔ:/+C1C2VC3	ONS	*COMPLEX <sup>ONS</sup>	ALIGN-L (ɔ:, PrWd)	CONTIGUITY-IO	DEP-IO
a. $\text{C1}\text{ɔ}:\text{C2VC3}$				*	*
b. $\text{ɔ}:\text{C1C2VC3}$	*!		*		
c. $\text{C1C2VC3}\text{ɔ}:$	*	*!	*		
d. $\text{C1C2}\text{ɔ}:\text{C3}$		*	*	*	*

Similarly, tableau 3 explains the same process of evaluation, adding an example of this verb. The OT analysis of verb /ħɔ:ləb/ “to milk several

times” is shown in tableau 3 where the same candidate of (a) is the winner.

**Tableau 3: The evaluation process of the intensive verb /ħɔ:ləb/ “to milk several times”**

Input:/ɔ:/+/ħləb/	ONS	*COMPLEX <sup>ONS</sup>	ALIGN-L (ɔ:, PrWd)	CONTIGUITY-IO	DEP-IO
a. $\text{ħ}\text{ɔ}:\text{l}\text{ə}\text{b}/$				*	*
b. $\text{ɔ}:\text{ħ}\text{l}\text{ə}\text{b}/$	*!		*		
c. $\text{ħ}\text{l}\text{ə}\text{b}\text{ɔ}:/$	*	*!	*		
d. $\text{ħ}\text{l}\text{ɔ}:\text{b}/$		*	*	*	*

The second main type of intensive verbs is

formed by infixing /wə/to the form of tri-consonantal verbs. Generally, the same constraints and with the same ranking as the first

type are also used in the analysis of the second type. There are some differences in that \*COMPLEX<sup>ONS</sup> is replaced by \*COMPLEX since this pattern has a simple onset and coda in both of its syllables.

\*COMPLEX: a syllable must not have more than one onset segment or one coda segment. (Prince and Smolensky, 2008).

Moreover, ALIGN-R (wə, PrWd) is used instead as the affix/wə/ is aligned to the right edge of the head in the prosodic word. Therefore, the constraints ranking appears as follows:

ONS>>\*COMPLEX>> ALIGN-R (wə, PrWd)>> CONTIGUITY-IO>> DEP-IO

It is better to illustrate the OT analysis of this verbal pattern only by mentioning an example

and explaining how the evaluation process occurs. The example here is of the intensive verb /ʕəsʕwər/ “he moved round and round all the way”. Candidate (a) incurs a fatal violation at the higher ranking constraint \*COMPLEX and another two at the lower ranking constraints. Candidate (b) causes only two violations at the lower ranking constraints in the hierarchy. Candidate (c) violates the higher ranking constraint ALIGN-R (wə, PrWd) with a fatal violation mark whereas candidate (d) also disobeys the three high ranking constraints in the hierarchy. The conclusion that is drawn from tableau 4 is that candidate (d) deserves to be the optimal output whereas the other candidates do not.

**Tableau 4 :The evaluation process of the second type of intensive verbs**

Input:/wə+/ʕsʕər/	ONS	*COMPLEX	ALIGN-R (wə, PrWd)	CONTIGUITY-IO	DEP-IO
a./ʕsʕwər/		*!		*	*
b.ʕsʕwər/				*	*
c./wəʕsʕər/			*!		
d./əwʕsʕər/	*!	*	*		

The third type of intensive verbs contains three other verbal patterns as mentioned earlier. In order to investigate them morphologically, one should make reference to Theory of Affixation proposed by Prince and Somlesnky (1993), the Correspondence Theory and the Theory of Reduplication which “involves correspondence between stem and base, between base and reduplicant, and between stem and reduplicant” (McCarthy and Prince, 1995. p.252). Correspondence is, then, a relation between two forms such as bas and reduplicant or input and output (Ibid).

It is by the interaction between two families of faithfulness constraints that the identity between these forms, input and the output, is determined. These two groups of constraints, MAX and DEP, are mentioned in (McCarthy and Prince, 1995) and shown below:

The MAX Constraint Family

Every segment of S 1(base ,input ,)has a correspondent in S 2 ( reduplicant , output )

types

MAX-BR

Every segment of the base has a correspondent in the reduplicant.

(Reduplication is total.)

MAX-IO

Every segment of the input has a correspondent in the output.

(No phonological deletion.)

The DEP Constraint Family

Every segment of S 1has a correspondent in S 2 (S2 is “dependent on” S 1.)

Types:

DEP-BR

Every segment of the reduplicant has a correspondent in the base.

(Prohibits fixed default segmentism in the reduplicant.)

DEP-IO

Every segment of the output has a correspondent in the input.

(Prohibits phonological epenthesis.)

Both MAX-BR and DEP-BR are suitable for evaluating the correspondent relation between the input and the output. If the correspondence between the input and the output is perfect, then there is a total reduplication which is an indication that MAXBR is undominated but if the correspondence is not perfect, in this case, there is a partial reduplication .(Ibid)

It should be pointed out that the reduplication involves the affixation of RED morpheme to the input which , according to CHA data, is a single consonant of the root in its size or sometimes a

vowel. Regarding the position of the reduplicant, it is either aligned to the right or the left edge of the stressed syllable or the head of the prosodic word (McCarthy and Prince, 1993). Generally, Arabic exhibits all types of consonant reduplication, the idea that is also asserted by El-Zarka (2005)..

First of all, CHA intensive verb with C1VC2C1VC2 is, in fact, bi-consonantal geminated verb with a verbal template C1VC2VC2, in which the C1 of the root is the reduplicant and it is aligned to the right of the stressed syllable. For example /f/ is attached to the verb /farər/ to form the verb/ farfər/ “he fled many times”. Since in Arabic the reduplicated form have CVCCVC, then it is necessary to take into account the markedness constraint that prohibit the complex cluster in the initial and final positions, \*COMPLEX which is ranked higher than any other constraints.

There are also another constraints required in assessing this form of intensive verb: OCP and ALIGN ([C1]REDL, Stem ,L)

ALIGN ([C1]REDL, Stem ,L): align the left edge of the reduplicant with the left edge of the stem.(Kager, 1999)

Since, there is a partial reduplication the constraint MAX-BR is also important in this analysis, in addition to the constraint DEP-IO which is ranked in a lower status of ranking. Moreover, as the first consonant of the root is always aligned to the right edge of the stressed syllable, the degree occupied by ALIGN ([C1]REDL, Stem, L) in the hierarchy will be

delayed and thus this constraint becomes in low degree of ranking. Consequently, the interaction between the markedness and the faithfulness constraints are arranged in the hierarchy as illustrated below:

\*COMPLEX,OCP>> MAX-BR>>ALIGN ([C1]REDL, Stem ,L)>>DEP-IO

In tableau 5, both \*COMPLEX, OCP have the same degree of ranking and both dominate Max-BR which possesses a lower ranking due to partial reduplication. Since the reduplicant is aligned to the right edge of the stressed syllable as confirmed before, then ALIGN ([C1]REDL, Stem ,L) has also a low state of ranking but outranks DEPIO as it is violated much more due to the insertion of the consonant of the root. To reach the optimal output, the interaction between these constraints takes place in tableau 5. Candidate (a) is the winner though it incurs the violation three times at the constraint ALIGN ([C1]REDL, Stem ,L) and one for DEP-IO but these two constraints have lower ranking. However, candidate (a) satisfies the higher ranking constraints. Candidate (b) incurs two violation marks at the alignment constraint and more fatal violation mark at the higher ranking constraint OCP. Candidate (c ) violates the higher ranking constraint while candidate (d) gets a fatal mark on violating the higher ranking constraint, MAX-BR though it becomes faithful to the other constraints. Therefore, all the three candidates (b), (c ) and ( d ) are not suitable to be the actual output.

**Tableau 5: OT analysis of the first form of quadrilateral verb (bi-consonantal geminated verbs)**

Input:RED+C1VC2VC2	*COMPLEX	OCP	MAX BR	ALIGN ([C1]REDL, Stem ,L)	DEPIO
a. $\text{C1VC2C1VC2}$				***	*
b. $\text{C1VC1C2VC2}$		*!		**	*
c. $\text{C1C1VC2VC2}$	*!	*	*		
d. $\text{C1VC2VC2}$			*!		

In tableau 6 a given example of this verbal pattern of intensive verb is illustrated in the same manner. It is for the verb /farfər/ “he fled many times”. The actual output is /farfər/ as it

violates the lower ranking constraints at expense of being faithful to the higher ranking constraints.

**Tableau 6: The evaluation process of the verb /farfər/ “he fled many times”.**

Input:RED+ /farər/	*COMPLEX	OCP	MAX BR	ALIGN ([C1]REDL, Stem ,L)	DEPIO
a. /farfər/				***	*
b. /fafrər/		*!		**	*
c. /ffarər/	*!	*	*		
d. /farər/			*!		

The other form of intensive verb is also as a result of reduplication process but in this case, the reduplicant is the third consonant in tri-consonantal verb which is aligned to the left edge of the stressed syllable. In other words it occupies a suffixal position. Almost the same markedness and faithfulness constraint as the former are also used to analyze these verbs. First of all \*COMPLEX occupies the higher position of ranking, followed by another constraint of importance, RED-C3[+SON,=COR]. It is a matter of fact that in tri-consonantal verb the third consonant that is reduplicated is one of the coronal sonorant’s sounds [n],[l]and [r] (Abu-Mansour, 2015) and thus RED-C3[+SON,=COR] stipulates that the reduplicant affix copies the third consonant of the root only if it is a coronal sonorant. Furthermore, an additional alignment constraint is also needed here.

ALIGN([C3]REDR, Stem ,R): align the right edge of the reduplicant with the right edge of the stem.(Prince and Smolensky, 1993)

MAX-BR as well as DEPIO are also incorporated in the interaction of these constraints to decide the actual output. Consequently, the ranking of these constraints is as shown below:

\*COMPLEX,RED-C3[+SON,=COR]>>OCP>>MAX-BR>>ALIGN([C3]REDR, Stem, R)>>DEP-IO

The constraint \*COMPLEX has a higher state of ranking as the main structure of this intensive reduplicated verbs contain CVCCVC syllables with simple margin in initial and final positions. As this form results from reduplicating the third consonant of the root, then RED-C3[+SON,=COR] is also considered undominated and shares the same ranking of \*COMPLEX. However, RED-C3[+SON,=COR] occupies a higher position than OCP which outranks MAX-BR. Because it is a partial reduplication, MAX-BR is ranked lower in the hierarchy. Moreover, the reduplicant is aligned to the left edge of prosodic word, this means the violation of ALIGN([C3]REDR, Stem, R) and an indication of the lower ranking state of this constraints. DEP-IO also possess lower ranking as the matter of reduplication itself violates this constraint.

Tableau 7 illustrates a set of candidates, verbal patterns of possible intensive verb of this type, comparing with each other and assessed by using the interaction of these constraints .

**Tableau 7: OT analysis of the second reduplicated form of intensive verbs**

Input: RED+ C1VC2VC3	*COMPLEX	REDC3[+SON,=COR]	OCP	MAX-BR	ALIGN([C3]REDR, Stem, R)	DEP-IO
a.C1VC2C1VC3		*!				*
b.C1VC2VC3C3	*!		*			
c. /C1V2C3VC3			*	*	*	*
d. C1VC2VC3		*!		*	*	

In tableau 7, the verbal pattern (c) succeeds to win the competition and to be the actual output since it obeys the two higher ranking constraints \*COMPLEX and REDC3[+SON,=COR] though it gets violation at the lower ranking constraints. For candidate (a ) it is impossible to be regarded as the optimal as it incurs a fatal violation at REDC3[+SON,=COR]. Candidate (b) also violates the constraint in the top of the hierarchy,

\*COMPLEX and candidate (d) also violates the second constraint in the hierarchy REDC3[+SON,=COR].Therefore, they are excluded. The same tableau is also repeated in tableau 8 with supporting example of the same pattern /ʃaʃləl/ “to ignite fire” where , here, the winning candidate is also (c) /ʃaʃləl/.

**Tableau 8: The evaluation process of second type intensive reduplicated verb /ʃaʃləl/ “to ignite fire”**

Input: RED+ /ʃaʃləl/	*COMPLEX	REDC3[+SON,=COR]	OCP	MAX-BR	ALIGN([C3]RED R, Stem, R)	DEP-IO
a./ʃaʃləl/		*!				*
b./ʃaʃləl/	*!		*			
c. /ʃaʃləl/			*		*	*
d./ʃaʃləl/		*		*	*	

The third type of reduplicated intensive verbs is characterized by reduplicating the first consonant of the root in tri-consonantal verb, yielding the formation of C1VC2C1VC3. According to CHA data presented earlier the first consonant of the root is aligned to the right edge of the head in the prosodic word. Conversely, this reduplication process leads to lower the ranking status of the constraint ALIGN([C1]REDL, Stem, L) in the hierarchy. A new constraint is also utilized in this analysis. It is RED-C1.

RED-C1: the reduplicant affix copies the first consonant of the root (Prince and Somlensky, 1993). The markedness constraints, \*COMPLEX and OCP, play an important task to determine the internal position of the reduplicant and take part in assessing the comparing candidates. Both occupy the top of the ranking in this analysis and are followed by REDC1 and ALIGN([C1]REDL, Stem, L) which is also of a low status of ranking, in addition to DEP-IO that occurs at the bottom of the hierarchy. Therefore, the ranking of the constraints becomes as follows:

\*COMPLEX, OCP >> REDC1 >> ALIGN([C1]REDL, Stem, L) >> DEPIO

Tableau 9 analyzes this verbal pattern of reduplicated intensive verb, showing the constraints interaction in order to evaluate the possible set of candidates. The optimal output at (c) emerges as a result of the evaluation process. The candidate (c) obeys the first three constraints of high ranking though it incurs violation three times at the lower ranking constraint ALIGN([C1]REDL, Stem, L) and once at DEP-IO. Although candidate (a) satisfies the majority of the constraints, it gets a fatal violation mark at the constraint in the top of the hierarchy. Candidate (b) has also a fatal violation mark at the constraint OCP, the constraint of high ranking as well as other violation marks at the other the constraints. Candidate (d) also violates REDC1 with a fatal violation mark and ALIGN([C1]REDL, Stem, L) though it obeys the other two constraints of high ranking, \*COMPLEX and OCP. However, candidate (c) still exceeds candidate (d) with satisfaction of one more higher ranking constraint.

**Tableau 9: OT analysis of the third type of reduplicated intensive verbs**

Input: RED+C1VC2VC3	*COMPLEX	OCP	REDC1	ALIGN([C1]REDL, Stem, L)	DEP-IO
a. C1C1VC2VC3	*!				
b. C1VC1C2VC3		*!		**	*
c. /ʃaʃləl/ C1VC2C1VC3				***	*
d. C1VC2VC3			*!	*	

Tableau 10 shows the same tableau of 9 but with supporting example of /ʃarʃəh/ “to shout and insult someone severely”. Similarly the candidate

(c) is the actual output whereas the rest of the candidates are avoided to be the actual output.

**Tableau 10: The evaluation process of the verb /ʃarʃəħ/ “to shout and insult someone severely”**

Input:RED+/ʃarəħ/	*COMPLEX	OCP	REDC1	ALIGN([C1]REDL, Stem, L)	DEPIO
a./ʃʃarəħ/	*!				
b./ʃaʃrəħ/		*!		**	*
c.ʃʃʃarʃəħ/				***	*
d./ʃarəħ/			*!	*	

**5.0 Conclusion:**

The main conclusions of this study are as follows Unlike Standard Arabic which uses Stem IX as the only form of intensive verbs, CHA is characterized as having a rich morphological system of intensive verb patterns: C1ɔ:C2iC3, C1ɔ:C2uC3, C1aC2wəC3, C1aC2C1əC2, C1aC2C3əC3 and C1aC2C1əC3.

In fact, CHA intensive verb Stems are derived forms. They are derived from Stem I either by

affixation or reduplication. They are quadrilateral verbal stems with the verbal template of CVCCVC, without any presence of either initial or final consonant cluster in its syllables which is an indication of the high ranking of the constraints \*COMPLEX<sup>ONS</sup> and \*COMPLEX<sup>CODA</sup>.

It has been found that the alignment constraints modify the prosodic structure of the verb in CHA either by changing the vocalic pattern or by affixation.

**Bibliography:**

- 1- Abu-Mansour, M. (2015). A study of Internal Reduplication in Makkan Arabic. *Journal of Asian and African Studies*, 90, pp.29-60
- 2- Ahmed, A. (2010). The phonology and morphology of Yemeni Tihami Dialect: An Autosegmental Account .Ph. D. Science University of Malaysia (USM). Malaysia.
- 3- Al-Alawi, M. (1980). *Rehla Ila AL-tagharein*. Higazi library. Damascus.
- 4- Al Aghbari, Kh. (2012). *Noun Plurality in Jebbali*. Ph.D. University of Florida .
- 5- Alfadly, H. (2007). A study on The Morphology of Mehri of Qishn Dialect in Yemen .Ph.D. thesis. Universiti Sains Malaysia.
- 6- Al Muhummedi, O. (2017). Spatial Analysis For Urban Land Use in the city of Shihri – Hadramout – Yemen. *The Journal of Hadramout University For Human Sciences* .14.(2).pp.561-589.
- 7- Al-Saqqaf , A. (1999). *Hadhrami Arabi Morphology* .Ph.D. thesis. University of Exeter. United Kingdom.
- 8- Al-Saqqaf, H. (2006).The Linguistic of Loan Words in Hadrami Arabic. *The International Journal of Bilingual Education and Bilingualism*. 1(9). pp.75-93.
- 9- Al Tairi, H. (2010). Consonant Clusters in Mukallaene Arabic Dialect: Observations and an OT account. MA. thesis. Oakland University. Rochester, Michign. USA.
- 10- Aqil, A. (1981). *Namūdaj Min Al-lahjah Al-yamaniyyah fi Wadī Ḥadramawt*. *Journal of the Gulf and Arabian Peninsula Studies*, 28, pp. 131-144.
- 11- Bahameed, A. (2007). *The Translatability of Hadrami Proverbial Expressions: Cultural And Linguistic Transfer from Arabic into English*.Ph.D. University Sains, Malaysia.
- 12- Bamakhramah, M. (2009). *Syllable Structure in Arabic Varieties With Focus On Super Heavy Syllables* .Ph .D .Indiana University .
- 13- Basalamah, M. (1980). *An experimental phonetic study of consonants: Ḥadramī Arabic*. M.A. Thesis. University of Edinburgh.
- 14- Babuair, A. (2012). *Inhiraf Alhajt Alamia Al Hadeitha: Madahir Min Lahja Al Mukalla* . Mukalla: Dar Hadhramout.
- 15- Bat-El, O. (2003). *The Fate of The Consonantal Root and The Binyan in Optimality Theory* . *Recherches linguistiques de Vincennes*, 32, pp. 31-60.
- 16- Beeston, A. (1970). *The Arabic Language Today* .London. Hutchinson.
- 17- Bin-Mahfouz, N. (2013). *Autosegmental-Theoretic Approach Towards Describing Some Syllable Structure Rules in Hahrami Arabic*. MA. thesis. Umm Al Qura University. Saudi Arabia.
- 18- Bouquiaux, L and Thomas, M. (1992). *Studying and Describing Unwritten Languages*. Summer Institute of Linguistics, Dallas.
- 19- Creswell, J. & Maietta, R. (2002). *Qualitative Research*. In *Handbook of Research Design and Social Measurement* (miller, Delbert C and Salkind, Neil J eds.). Sage Publications Ltd., London.
- 20- Crystal, D. (2000). *Language Death*. Cambridge University Press.
- 21- Dahl, O. (1985). *Tense and Aspect Systems*. Basil Blackwell Ltd., UK
- 22- Dendane, z. (2007). *An overview of Verbs Morphology in Arabic*. At Es-senia . In: *International Colloquium in Traductology and NLP*. University of Oran . Algeria. April 2007.
- 23- Elramli, Y. (2012). *Assimilation In The Phonology of A Libyan Arabic Dialect: A Constraint-Based Approach*. Ph. D. Newcastle. University of Newcastle.
- 24- ElZarka, d. (2005). *On The Borderline of Reduplication: Gemination and Other Consonant Doubling in Arabic morphology*. In Bernard Hurch (ed.), *Studies on Reduplication*. 369-394. Berlin and New York: Mouton de Gryter.
- 25- Hancock, I. (1987). *A Preliminary Classification of the Anglophone Atlantic creoles, with Syntactic Data from Thirty-Three Representative Dialects*. *Pidgin and Creole Languages* (Gilbert, Glenn, ed.). Essays in memory of John E. Reineke, 264-334. University of Hawai'i Press, Honolulu.
- 26- Holes, C. (1995). *Modern Arabic*. Longman, London.
- 27- Kager, R. (1999/2004) *Optimality Theory*. New York: Cambridge University Press.
- 28- Leben, W. (1973). *Suprasegmental Phonology*. Ph.D. MIT.
- 29- McCarthy, J. (1986). OCP effects: Gemination and antigemination. *Linguistic inquiry* 17 (2 ), pp. 207-263.
- 30- McCarthy, J. (2002) *A thematic guide to Optimality Theory*. Cambridge: Cambridge University Press.
- 31- McCarthy, J. (2007) *Hidden generalizations: phonological opacity in Optimality Theory*. London: Equinox.
- 32- McCarthy, J. (2008) *Doing Optimality Theory: applying theory to data*. Malden, Mass.; Oxford: Blackwell.
- 33- McCarthy, J. & Prince, A. (1993). *Prosodic Morphology I: constraint interaction and satisfaction*. MS. University Massachusetts, Amhrest, and Rutgers University.

- 34- McCarthy, J. & Prince, A. (1994). The Emergence of The Un marked: Optimality in The Prosodic Morphology. In Merce Gonzalez (ed.), Proceedings of the North East Linguistic Society. 24.333-379. Amhrest, Ma: Graduate Linguistic Student Association.
- 35- McCarthy, J. & Prince, A. (1995) Faithfulness and Reduplicative Identity .In Jill Beckman, Laura Walsh Dickey, and Suzanne Urbanyk (eds), papers in Optimality Theory (University of Massachusetts Occasional Papers in Linguistics 18). 249-384. Amhrest, MA: Graduate Linguistic Student Association.
- 36- Milroy, L. (1987). Observing & Analysing Natural Language. Blackwell, Britain.
- 37- Munro, P. (2001). Field Linguistics. In The Handbook of Linguistics (Aronof, Mark and Rees-Miller, Janie, eds.), Blackwell Publishers Ltd., UK.
- 38- Neuman, L. (2000). Social Research Methods. Allyn and Bacon, USA.
- 39- Prince, A. & Smolensky, P. (1993) Optimality Theory, RUCCS TR-2. Technical Reports of the Rutgers Center for Cognitive Science, New Brunswick, NJ.
- 40- Prince, A. & Smolensky, P. (2004). Optimality Theory: Constraint Interaction in Generative Grammar, Malden, MA, and Oxford, UK: Blackwell.
- [Revision of 1993 technical report, Rutgers University Center for Cognitive Science. Available on Rutgers Optimality Archive 537].
- 41- Prince, A. & Smolensky, P. (2008). Optimality Theory: Constraint Interaction in Generative Grammar. London: Blackwell publishing.
- 42- Roper, J. & Shapira, J. (2000). Ethnography in nursing research. Thousand Oaks, CA: Sage.
- 43- Rose, Sh. (1997) Theoretical issues in comparative Ethio-Semitic phonology and morphology. Dissertation. McGill University, Quebec.
- 44- Varjasa Kris, Nastasib B., Moorec R. & Jayasena A. (2005). Using Ethnographic Methods for Development of Culture-Specific Interventions. Journal of School Psychology. 43: pp.241 – 258.
- 45- Walter, M. (2003). Kalaam, kalaarbaam: An Arabic language game in Hadramaut, Yemen. Proceedings of the 10th Annual Symposium about Language and Society - Austin (SALSA). Texas Linguistic Forum, 45, 177-186.
- 46- Watson, J. (2002). The phonology and morphology of Arabic. Oxford University press. United Kingdom.
- 47- Watson, J. (2006). Arabic Morphology: diminutive verbs and diminutive nouns in Sanani Arabic .Springer Science and Business Media. United Kingdo

# الأنماط الصرفية لأفعال المبالغة في اللهجة الحضرية العربية الساحلية: دراسة تحليلية باستخدام النظرية الأمثلية

حسن عبيد الفضلي

أمل علي سالم بلسود

## الملخص

بناءً على النظرية الأمثلية، يدرس هذا البحث التحليل الصرفي لأنماط أفعال المبالغة في اللهجة العربية الحضرية الساحلية التي جمعت بياناتها من مدينتي المكلا والشحر. لقد وجد أن هناك تفاعلاً لمجموعة من القيود المتعلقة بالولاء والفروع لتعيين التكوينات اللفظية لأفعال المبالغة في اللهجة العربية الحضرية الساحلية، قيود بنية المقطع وقيود المحاذاة. ويظهر التحليل أن جميع جذور أفعال المبالغة في اللهجة العربية الحضرية الساحلية تقريباً تختلف تماماً عن أفعال المبالغة المكافئة لها في اللغة العربية الفصحى. ونظرًا لأن جميعها أفعال مشتقة، فإن تحليلها يعتمد في الغالب على نظرية إعادة التكرار، إذ تقوم قيود المحاذاة بتعديل البنية النظمية للفعل، إما عن طريق تغيير النمط الصوتي، أو عن طريق الإلصاق.

**الكلمات المفتاحية:** اللهجة العربية الحضرية الساحلية، النظرية الأمثلية، قيود بنية المقطع، قيود المحاذاة، أفعال المبالغة.