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Conclusion:

For the purpose of this study, two dialects of Palestinian Arabic “Northern and Southern Gaza Strip” were examined, and the constraints that are performing on these dialects were modeled following the work of Davis (1995) and McCarthy (1997; 2003) . The major thesis of this paper became clear as a result of the examination of RTR harmony spreading in these two dialects. First, the results of the analysis of the spreading of the set of emphatic sounds/ S, T, D/ indicated that there was a bi- directional harmony of the emphatic sounds represented in leftward harmony [RTR] (retracted tongue root) which was unlimited within the word, while rightward harmony was blocked by the high front segments because a process- specific constraint prevented them from linking to the [RTR] harmony. Then the analysis also indicated that there was an emphatic /R/ found in Palestinian Arabic along with the other emphatics/ T, D, S/. Hence, it was argued that, as other kinds of emphatics, the emphatic /R/could be blocked in certain environments, or by certain constraints and thus resulting in a non- emphatic phoneme /r/. It was clearly demonstrated in this paper that the high front fortis vowel /i:/ blocked the emphatic spreading of the /R/ emphatic spreading when it is a morpheme.

case they are part of a root, not morphemes. For example, the word [dari] ‘he knows’ can’t be broken down into any further parts that have meaning, while the word [daRii] ‘my house’ can be segmented into {dar} ‘house’ and {ii} means ‘my’. This phenomenon is interesting in the sense that the emphatic spreading depends on the kind of /ii/ whether it is just part of the root or a morpheme. If we examine TABLE 6 (section A) where the /ii/ is the morpheme ‘my’, we notice that phonology outranks morphology in a sense that there is spreading of the emphatic /R/. Thus, we predict that the emphatic spreads before the root is attached to the morpheme. But on the other hand, we notice that when the /ii/ is part of the word as in TABLE 6 (section B) , there is no emphasis spreading of the emphatic /R/. In other words, the high front vowels here block emphasis spreading.

TABLE 6:
The Behavior of High Front Vowels /ii/ in Palestinian Dialects

| A. The morpheme {ii} | B. The segments/ii/ B. the segments/ii/ |
|----------------------------------|--|
| <u>daRii</u> ‘my house’ | dari ‘ he knows’ |
| <u>naRii</u> ‘ my fire’ | ʃarii ‘ buying’ |
| <u>ZaRii</u> ‘my neighbor’ | Zarii ‘ going on’ |
| <u>taRii</u> ‘my revenge’ | nadii ‘playground’ |
| <u>samaRii</u> ‘ my black color’ | sarii ‘valid’ |
| <u>damaRii</u> ‘my destruction’ | marii ‘common name’ |
| | ibarii ‘compete’ |
| | mudariisat ‘ Female teachers’ |

It is evident that in a word like ‘sariiri’ ‘my bed’ there is no emphasis since the /ii/ following the /r/ is an integral phonemic segment in the root ‘sariir’. This provides further evidence that the spreading of harmony or its blocking occurs within the word boundaries before it is prefixed to the morpheme {ii} ‘my’.

At this point, the constraint should be modified from: ‘Local RTR/ Hi& FR’ to: ‘No morpheme/local RTR/Hi & FR’. When the morpheme {ii} ‘my’, the constraint ‘SPREAD [RTR]’ is ranked higher than ‘No morpheme/local RTR/Hi & FR’, this ranking shifts, especially when the /ii/ is part of the word, not as a morpheme.

(6) /Rafii/ 'thin' also has a high front vowel, but there is no blocking of the harmony. This is due to the fact that this constraint must be contiguous-immediately preceding or following- to the emphatic (R). It is also noticed that in this word the emphasis is separated from the high front vowel by two segments; therefore, the conditions are not working here.

Another thing is that the spreading of the emphasis is blocked when the emphatic (R) is followed immediately by a coronal, for example, the words /bardan/ 'he is cold', /qurʃala/ 'biscuits', and /dars/ 'lesson' in column (B) do not have emphatic spread because they are followed by coronals, whereas the word /daRas/ 'he studied' in column (A) shows spreading of the emphasis because the emphatic sound is not immediately followed by a coronal. According to this piece of evidence, one could formulate a constraint that implies 'RTR coronal' which means that 'RTR' cannot be spread after an adjacent coronal. Yet this condition is faced by another problem that would imply a change of this condition. When the examples (9, 11, 12, & 13) in column (A) are reexamined, it will be obvious that there is spreading of the emphasis even though the emphatic (R) is followed by a coronal. However, it is clear that in these two examples there is a geminate coronal, which shows that there is a coda condition working here. Thus, the constraint on this variety of Palestinian Arabic emphatic (R) can be summarized in:

(Local RTR/ Hi& FR) = do not spread RTR when there is a local high front vowel

RTR coronal (not coda condition)

Ident ATR.

Spread RTR

The Emphatic /R/ and the morpheme {ii} 'my'

It is clearly demonstrated in the previous section that the high front fortis vowels /ii/ block the emphatic spreading of the /R/ if they are placed either immediately preceding or following the emphatic /R/, but actually this is not the case in all examples. In Palestinian Arabic the high front vowels /ii/ can be considered a morpheme that means the possessive 'my'. Moreover, these high front vowels also occur as a phonemic constituent of a word, so in this

Table 5
Emphatic and Non- emphatic Sounds in Palestinian Dialects

| A. Emphatic R | B. Non- Emphatic R |
|--|---------------------------------------|
| 1. <u>samaR</u> ‘common name’ | 1. samiir ‘common name’ |
| 2. <u>Rana</u> . ‘common name’ | 2. riinaa ‘common name’ |
| 3. <u>Ras</u> . ‘head’ | 3. djiraan ‘neighbor’ |
| 4. <u>naR</u> . ‘fire’ | 4. riīhaa ‘smell’ |
| 5. <u>daR</u> ‘house’ | 5. dariin ‘common name’ |
| 6. <u>Rafiʕ</u> . ‘thin’ | 6. daarii ‘he knows’ |
| 7. <u>KaRam</u> ‘generosity’ | 7. kariim ‘generous’ |
| 8. <u>ʔadaR</u> ‘he cheated’ | 8. ʔadiir ‘common name’ |
| 9. <u>xaRraf</u> ‘became insane’ | 9. xariif ‘autumn’ |
| 10. <u>Rawa</u> ‘he told a story’ | 10. riwaia ‘novel’ |
| 11. <u>daRras</u> ‘he taught’ | 11. ʔariifa ‘honest F’ |
| 12. <u>ʔaRraf</u> ‘make someone honored’ | 12. bardaan ‘he is cold’. bard ‘cold’ |
| 13. <u>baRrad</u> ‘it became cold’ | 14. dars ‘lesson’ |
| 14. <u>daRas</u> ‘he studied’ | 15. qurʔala ‘biscuits’ |

Based on the data in table (5) , it can be argued that the emphatic variety /R/ in Column (A) is the primary phoneme in this variety of Palestinian Arabic, while the non- emphatic /r/ is derived from the basic emphatic phoneme, for the emphatic R will be proved to be lexical or basic form in this dialect. In this section it will also be argued that, as other kinds of emphatics, the emphatic /R/can be blocked in certain environments, or by certain constraints and thus resulting in the non- emphatic phoneme /r/. If one looks closely into the data in Column (A) , there is evidence that the emphasis or pharyngealization spreads from the emphatic /R/ to the surrounding sounds. It is also clear that there is a bi- directional way of the emphatic spreading. For example, the word /Ras/ ‘head’ in column (A) shows that the spreading goes from left to right, while in the word /naR/ ‘fire’ spreading goes from right to left. On the other hand, the data in column (B) shows that the spreading of the emphasis, according to the ongoing argument, is restricted and blocked. But the question here is ‘what are the constraints that prevent this underlying emphatic phoneme from spreading?’

The careful examination of the data in column (B) shows the following:

In examples (1- 11) , there is a high front vowel (ii & i) either following or preceding the (R); this can be a constraint operating on the emphatic (R) and so blocking the harmony. It is noticed that in column (A) the word in

To see how this set of constraints works, consider the following tableau:

Table 3
the Constraints RTR/Hi & FR.

| /ʔaT]aan/ | RTR/Hi | RTR/left | RTR/right | IDENT ATR |
|------------------|--------|----------|-----------|-----------|
| ʔ <u>a</u> T]aan | | | **! | ** |
| ʔ aT]aan | | *! | ** | |
| ʔ <u>a</u> T]aan | **! | | | *** |

To summarize the features of the harmony in the three dialects discussed in this section, consider the following Table.

Table 4
Harmony Features in the Three Palestinian Dialects

| | Left harmony | Left/ H bloc. | Right H | Right H bloc. |
|-------------------------|--------------|---------------|---------|---------------|
| Southern Pales. | √ | x | √ | √ |
| Southern Gaza | √ | x | √ | x |
| Northern Gaza | √ | √ | √ | √ |
| Other dialects may have | | | | |
| 1 | x | x | x | x |
| 2 | x | √ | √ | x |
| 3 | √ | x | √ | x |

Note: *x = work* *√ = doesn't work*

Section 2: The emphatic [R] in Northern Gaza Palestinian Arabic

It is mentioned in the introduction of this paper that Palestinian Arabic has an emphatic /R/ along with the other emphatics/ T, D, S/. The status of this emphatic feature is really hard to establish since it is not as contrastive as the other kinds of emphatics which constitute unique phonemes in the language. So, one would suggest that in Palestinian Arabic there are two varieties of (r) : Emphatic /R/ (in this place the capital /R/ will be used to refer to the emphatic variety, and the small r to refer to the non- emphatic variety) and non- emphatic /r/. Consider for example the following two sets of data:

◆ ***Blocking of rightward harmony:***

- Tiinak ‘your mud’
- Sayyaad ‘hunter’
- ʕaT]aan ‘thirsty’
- Dajjaat ‘noise’

Examples (1, 2, 3, 6, and 7) in (g) show that the regressive spreading of the emphatic sound starts from the emphatic coronal consonant and extends to the beginning of the word. However, the words in (*4, 5, 8, 9, and 10) show that the emphatic spreading is blocked by the following phonemes:

/i/, /y/, /ʕ/, /j/.

The examples in (h) show that progressive spreading of the emphatic sound extends to the end of the word; however, the words in (i) show also that the spreading is blocked by the same phonemes that are responsible for the blocking of the leftward spreading.

This data from Northern Gaza strip show symmetry between leftward and rightward RTR spreading in Palestinian Arabic. This data stands as a contrast to the Northern Palestinian data presented by Davis. In the data that Davis examined, those opaque phonemes block only rightward spreading where they have no effect on the leftward spreading. Thus, it will be worth seeing what constraints are there on this dialect:

Based on the previous analysis of Southern Gaza RTR emphatic spreading, it can be concluded that RTR left and RTR right are ranked higher than IDENT ATR and so we have this formula:

RTR left, RTR right >> IDENT ATR.

In this dialect, however, we come across another constraint that blocks the harmony spreading. This constraint according to McCarthy (1997) is RTR/Hi & FR, which means that high and front segments block the spreading of the emphatic. In this dialect we have noticed that both rightward and leftward harmony is blocked by this constraint of RTR/Hi&FR. This will lead us to conclude that both RTR/LEFT and RTR/RIGHT are ranked lower than the constraint RTR/Hi & FR, which is obeyed and not violated in both cases. Therefore we can formulate the constraints as:

RTR/Hi & FR >> RTR/RIGHT & RTR/LEFT >> IDENT-ATR.

Table 2 (b)
RTR/ RIGHT>IDENT –ATR

| / Tahhaan/ | RTR- RIGHT | IDENT- ATR |
|------------|------------|------------|
| TAhhAAN | | **** |
| Tahhaan | *! *** | |

Table 2 (c)
RTR/ RIGHT & RTR Left >> RTR/ Hi& FR

| /ʔaT]aan/ | RTR/RIGHT | RTR/ LEFT | RTR/Hi& FR |
|-----------|-----------|-----------|------------|
| ʔaT]aan | | | *** |
| ʔ aT]aan | *! ** | | |
| ʔ aT]aan | | ** | |

2. *The Northern Gaza Dialect:*

This variety of Palestinian Arabic is my own dialect spoken in the Northern part of Gaza Strip. I will serve as an informant for this dialect. In this section I will show the pattern of the emphasis spread in this dialect and the constraints that underlie the surface structure.

Consider the following chart of the same word chart adopted from Davis (1995).

Northern Gaza Emphasis spread

◆ *Leftward harmony:*

- | | |
|----------------------------|-----------------------------|
| - ballaaS ‘thief’ | - ħaDD ‘luck’ |
| - ʔabsaT ‘pleased’ | - baaS ‘bus’ |
| - ʔaT]aan ‘thirsty’ | - *manaafiD ‘dust swappers’ |
| - *xayyaaT ‘tailor’ | - *na]aaT ‘activity’ |
| - *tamsiiTa ‘hair combing’ | |

◆ *Rightward harmony:*

- | | |
|------------------------|------------------------|
| - Sabaah ‘morning’ | - ʔaTfaal ‘children’ |
| - Tuubak ‘your bricks’ | - Twaal ‘long’ |
| - Sootak ‘your voice’ | - Seefak ‘your summer’ |

This dialect of Palestinian Arabic is distinguished by the free and total spreading of the emphatic segments, (phonetically a kind of uvularization which is identified by the distinctive feature [RTR] (retracted tongue root) to the surrounding sounds (consonants and vowels) in all direction. For example, the examples in (d) show the spreading of leftward harmony form the emphatic spreading (capitalized consonants) to the left edge of the word. The examples in (e) show that the spreading also moves in the opposite direction, rightward harmony. In addition, we see that in (f) there is no blocking of the emphatic spreading by the set of sounds that are characterized by the feature high and front:

/i/, /y/, /ʔ/, /j/.

According to Optimality Theory (**OT**) , every language or even dialect within the language has a number of constraints and that those constraints are ranked differently. This is why there are different surface structures.

In this situation, one needs to try to use OT to examine the constraints imposed on the spreading of the Palestinian emphatic RTR sounds in this dialect. From this set of data, It is clear that the only constraints on the RTR spreading in this dialect are (a) SPREAD RTR to the Left of the emphatic (RTR left) and (b) SPREAD RTR to the right of the emphatic (RTR right) .

What one would expect to have is a faithful outcome of the input which is characterized by the feature ATR (advanced tongue root) . Thus, the expectation is that one of the candidates restricts the spreading of the RTR, However, one could see that in this dialect RTR is more respected and obeyed, and that the high front segments do not block the spreading. The result is that the constraint SPREAD RTR is ranked higher than the constraint RTR/Hi & FR. ; therefore, one would expect the constraint to be arranged as in the following:

Table 2 (a)

RTR/ LEFT>> IDENT- ATR and RTR/Hi& FR

| /?absaT/ | RTR- LEFT | IDENT- ATR |
|----------|-----------|------------|
| ?ABSAT | | **** |
| ?absaT | *! *** | |

We notice that this ranking yield the desired pattern of this dialect. The constraint responsible for rightward harmony is dominated by RTR/ Hi& FR, and so limiting its influence. We notice also that the constraint RTR- Left is dominating RTR/Hi &FR so that it spreads over all segments. The following table illustrates how these constraints are working.

Table 1:

| ʕaTʕaan | RTR- left | RTR Hi/FR | RTR- Right | IDENT- ATR |
|----------|-----------|-----------|------------|------------|
| CʕaTʕaan | | | ** | * |
| ʕaTʕaan | | **! | *** | **** |
| ʕaTʕaan | *! | | | |
| ʕaTʕaan | *! | | ** | |

1. The Southern Gaza Dialect:

For this dialect my informant is a 32- year- old female. This dialect shows great similarities with Cairene Arabic. This similarity may be due to the geographical closeness of Southern Gaza and Egypt. To see the pattern of emphasis spread in this dialect, consider the following chart:

Southern Gaza Emphatic Spreading

Note: the same examples are used here to keep the reader focused on the main results.

◆ leftward harmony

- 1. ballaaS ‘thief’ - haDD ‘luck’
- ?absaT ‘pleased’ - baaS ‘bus’
- ʕaTʕaan ‘thirsty’ - manaafiD ‘dust swappers’
- xayyaaT ‘tailor’ - naʕaaT ‘activity’
- tamʕiiTa ‘hair combing’

◆ Rightward harmony

- Sabaah ‘morning’ - ?aTfaal ‘children’
- Tuubak ‘your bricks’ - Twaal ‘long’
- Sootak ‘your voice’ - Seefak ‘your summer’

◆ No Blocking of rightward harmony

- Tiinak ‘your mud’ - Sayyaad ‘hunter’
- ʕaTʕaan ‘thirsty’ - Dajjaat ‘noise’

(retracted tongue root) is unlimited within the word, while rightward harmony is blocked by the high front segments /i, y, j, ʃ/. For example, the words in (a) show that the leftward harmony is not blocked even when there is a high front segment, e. g. /ʕ aTʃaan/. In this example, we notice that the harmony is not blocked by the segment /ʃ/ which is considered a high segment. The forms in (b) show that there is a rightward harmony, but the examples in (c) show that high front segments block the harmony. According to Davis (1995), the high front segments block rightward harmony because a process-specific constraint prevents them from linking to the [RTR] harmony. This constraint is called RTR/ Hi &FR, which means that RTR segment can not be high and front. What is interesting in these data is that these high and front segments block only the rightward harmony while they have no effect on the leftward harmony. In his work on formulating the constraints on the Southern Palestinian dialect, *McCarthy formulated the following constraints:*

Constraints on [RTR] alignment

A. *RTR- Left.*

Align ([RTR], left, Word, Left)

“any instance of [RTR] is aligned initially in word”

B. *RTR- Right*

Align ([RTR], Right, Word, Right)

“any instance of [RTR] is aligned finally in Word”

One would also suggest a constraint that is IDENT [ATR] (advanced tongue root) in which one would expect the output to be identical to the input, for example, instead of having the form /baaS/, we have the form /baaS/ without the spreading of the emphatic form. In other words, we would expect the output to be faithful to the input. According to OT, the optimal outcome is a result of a certain ranking of the constraints that are performing on the language. So, it is not only important to know the constraints but also how they are ranked in respect to each other. In this dialect, the ranking of the constraint can be seen as in the following:

RTR- left >> RTR Hi/FR >> RTR- Right >> IDENT- ATR.

This paper will be divided into two sections: the first section presents and analyzes data for emphasis spreading in both Northern and Southern Gaza Strip along with the data on Southern Palestinian presented in Davis (1995), while the second section discusses the emphatic /R/ in Northern Gaza dialect.

Section 1: Constraints of Palestinian Arabic Emphatic Spreading

In this section, the researcher will draw on the constraints of Palestinian Arabic emphatic spreading formulated by McCarthy (1994; 1997; 2003). The beginning will be with a summary of the Southern Palestinian dialect that is presented by Davis and also cited in McCarthy (1997), and the adoption of David's examples so as to be consistent with the constraints.

Data & Analysis

1. *Southern Palestinian Dialect* Davis (1995)

◆ *leftward harmony*

- | | |
|---------------------------|----------------------------|
| - ballaaS 'thief' | - ħaDD 'luck' |
| - ?absaT 'pleased' | - baaS 'bus' |
| - ʕaTʃaan 'thirsty' | - manaafiD 'dust swappers' |
| - xayyaaT 'tailor' | - naʃaaT 'activity' |
| - tamʃiiTa 'hair combing' | |

◆ *Rightward harmony*

- | | |
|------------------------|------------------------|
| - Sabaah 'morning' | - ?aTfaal 'children' |
| - Tuubak 'your bricks' | - Twaal 'long' |
| - Sootak 'your voice' | - Seefak 'your summer' |

◆ *Blocking of rightward harmony*

- | | |
|---------------------|--------------------|
| - Tiinak 'your mud' | - Sayyaad 'hunter' |
| - ʕaTʃaan 'thirsty' | - Dajjaat 'noise' |

(*Note:* The capitalized sounds represent emphatic segments)

In this dialect Davis (1995) noticed that there is a bi-directional harmony of the emphatic sounds. He noticed, too, that leftward harmony [RTR]

phonemes. Emphasis is also distinctive in Arabic, in other words, Arabic words contrast on the basis of the emphatic and non emphatic phonemes.

Consider the following minimal pairs:

seef “sword” Seef “summer”

tiin “figs” Tiin “mud”

dal “he ushered” Dal “he remains”

The emphatics or the pharyngealized coronal consonants manifested in my Northern Gaza dialect of Palestinian Arabic are the following:

/T, D, S, R/.

In Arabic, when an emphatic sound occurs in a word, emphasis or pharyngealization typically spreads to the neighboring sounds (Younes, 1982; 1993; 1994) . Consider for example the word /balaTa/ ‘brick’ where all the sounds (consonants and vowels) preceding and following the emphatic consonant /T/ are pharyngealized.

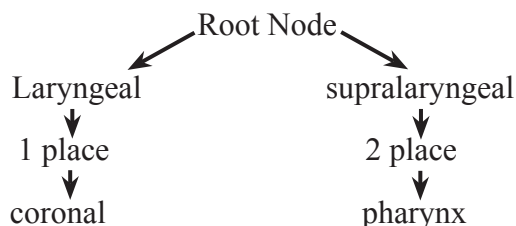
The spreading of the emphatic sound does not follow a uniform pattern in all dialects of Arabic. In some dialects, such as Cairene Arabic, emphasis normally spreads through the whole word, but in other dialects such as the Abha dialect of Saudi Arabia (Younes 1991) , emphasis rarely spreads beyond an adjacent vowel. Furthermore, it has been noticed by researchers that in some dialects of Arabic there are asymmetries between the rightward and the leftward spread of emphasis. Herzallah (1990) observes that in her Northern Palestinian dialect, emphasis spreads leftward from the emphatic consonant to the beginning of the word, whereas rightward spreading is restricted to the following low vowel. Herzallah (1990) also reports that certain phonemes are opaque to right word emphasis spreading, but those same phonemes are not opaque to the leftward spreading. Similar cases in the literature include Warlpiri round harmony (Nash 1979, 1980, and Sagey, 1988, in Davis 1995), in which labial consonants block rightward but not leftward spread of round harmony.

In summary, all previous definitions of emphasis stress the fact that production of emphatics involves a set of features, more or less detailed as they are, that engage the pharynx in a mechanism much similar to the production of pharyngeals.

Introduction:

Among the many linguists who attempted to define emphasis was Kahn (1975: 39) , who defines it as a “secondary pharyngeal articulation of certain consonants, usually stops and fricatives.” She adds that the articulation of emphasis involves the organs engaged in the production of a given sound in addition to a secondary pharyngeal articulation. This means that any obstruent in Arabic, more precisely in the Cairene dialect she studied, can be emphatic– a claim that needs more evidence. According to McCarthy (1994: 38) , emphasis in different dialect areas in the Arab world is always characterized by a «constriction in the upper pharynx». He distinguishes between these emphatics and pharyngealized consonants, arguing that while the former ones are purely emphatic, the latter ones should be called uvularized – affected by another set of back segments, i. e., uvulars: /q, X, ɣ /. Davis (1995: 465) defines emphasis, which corresponds, as he posits, to pharyngealization, as the phenomenon of producing sounds “with a primary articulation at the dental/alveolar region and with a secondary articulation that involves the constriction of the upper pharynx. ” He provides an account for bilabial emphasis in Arabic, which adds bilabials to the class of possible emphatics, in addition to dentals and alveolars.

Others define it as a secondary articulation involving the back of the tongue, which accompanies a primary articulation at another point in the vocal tract. (Ghazeli 1977; Norlin 1987; Herzallah 1990, in Younes, 1993) . According to the theory of feature geometry as exemplified in the work of McCarthy (1994) , Trigo (1991) and Herzallah (1990) in Davis (1993) an emphatic consonant would have the following representation:



From this representation we notice that the coronals have the primary place of articulation while the pharynx is holding the secondary place of articulation; however, it is the pharynx node that characterizes the emphatic

Abstract:

Palestinian Arabic emphatic sounds/ T, D, S/ produced with the back of the tongue retracted (RTR) have emphatic influence spreading over consonants and vowels and thus causing harmony between the emphatic sounds and the vowels and consonants of the word. However, this spreading is not uniform. For example, it spreads either to the right, or to the left, and sometimes it is blocked. This paper unfolds the constraints at work that yield the outcome forms after the emphasis is at play in the word. Moreover, this paper ranks the constraints and models them using the terms of Optimality Theory. Besides dealing with the emphatic sounds/ T, D, S/, the paper proves that the sound/r/ has two varieties in Northern Gaza dialect: emphatic /R/ and non- emphatic/r/. Like other emphatics, the influence of the emphatic /R/ may spread both ways: right and left, or it can be blocked by some constraints. These constraints include neighboring coronals in addition to high front vowels. The high front vowel /ii/ in this context functions either as a segment or as a morpheme indicating possessive “my”. In the former case the emphatic influence spreads, whereas in the later it does not, thus allowing phonology to outrank morphology.

ملخص:

تناول هذا البحث الأصوات المفخمة في اللهجة الفلسطينية/ط، ض، ص/ التي تصدر عندما يتراجع جذر اللسان، من حيث أثرها الممتد إلى الأصوات المجاورة ليتسبب في ايجاد تناغم بينها وبين الصوائت والصوامت في الكلمة نفسها. وعلى الرغم من ذلك فإن هذا الامتداد ليس أحادي الاتجاه، فمثلا يسير المد في كلا الاتجاهين، أو يمكن إيقافه بوساطة محددات موجودة في الكلمة نفسها. تقوم هذه الدراسة بترتيب هذه المحددات وتشكيلها من خلال نظرية (أوبتمالتي). وبينت الدراسة وجود صوت /ر/ يتمتع بتنوعين في اللهجة الفلسطينية الشمالية: صوت /ر/ عادي وصوت /ر/ المفخم يحمل مواصفات الأصوات المفخمة، حيث يمتد في كلا الاتجاهين، ويمكن إيقاف مداه بوساطة بعض المحددات تتمثل في وجود أصوات لثوية والصوت /ii/ الذي يؤدي دور فنولوجي أو مرفولوجي يشير إلى الملكية. ففي الحالة الأولى فإن أثر التفخيم يمتد وفي الثانية يثبت، وبهذا يرتقي الأثر الفنولوجي على التشكيل المرفولوجي.

Modeling Palestinian Retracted Tongue Root (RTR) Harmony into Optimality Theory

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