# Tripolitanian Arabic-
## An investigation in the phonology of the dialect spoken in the city of Tripoli-Libya,

**Dr. Albashir Ahmed**
**English Department/Faculty of Arts/ Zawya/2010**

## ABSTRACT

In the introduction of this paper the aims, the subject and its importance are briefly stated. However, the paper consists of two main parts. The first part deals with the segmental phonology of Tripolitanian Arabic and this includes classification of both vowels and consonants and relevant features such allophonic variation, length, geminating and clusters. The second part, on the other hand, deals with the suprasegmental level of the dialect and in which its syllable structure and stress pattern are discussed. In the conclusion, the findings of the research are summarised and some recommendations for further research are given.

## INTRODUCTION

This work will discuss the dialect spoken in Tripoli and which is known as Tripolitanian Arabic. The importance of this study lies in the fact that the researcher is a native speaker of the

dialect and has some experience of how its linguistic aspects, especially those related to its sound system, work. Phonological features of the dialect are more obvious since even if one is not aware of the other aspects of the dialect, one can hear it and can recognise how it sounds different from other Libyan dialects and from other Arabic varieties in general. The aim of this study, then, is to shed light on some of the phonological features of the dialect and this will no doubt enrich the literature and encourage more investigations to find out not only about the linguistic aspects of the variety but also about the culture and life-style of its community and how these factors affect language.

## PART I: SEGMENTAL PHONOLOGY OF TA

### 1.1. Consonants

Consonants are sounds that are produced with some sort of obstruction of the airstream in the vocal tract. Modern Standard Arabic (MSA) consonants are 28 distinctive phonemes. However, not all of them are available in Tripolitanian Arabic (TA) which in turn has some sounds that are not found in the standard variety of Arabic.

### 1.1.1. Description

TA consonants can be grouped in two main categories: obstruents

and resonants. Obstruents comprise plosives and fricatives whereas resonants include nasals, liquids and glides (Muftah, 2001: 29-42).

### 1.1.1.1. Plosives

There are eight plosives in TA; one bilabial [b], four dental-alveolar [d, dˤ, t, tˤ], two velars [k] and [g], and one glottal [ʔ]. The sounds [b, d, dˤ, g] are voiced while [t, tˤ, k, ʔ] are voiceless. Articulating a plosive involves three phases (Roach, 1995: 30). The closure phase in which two articulators make a closure to prevent air from escaping, the holding phase in which air behind the closure is compressed before it is finally released in what is known as the release phase. The closure is made between the two lips in [b], the tongue tip and the upper teeth in [d, t, dˤ, tˤ], the tongue back and the velum in [g, k].

What distinguishes the emphatic sounds [dˤ, tˤ] from their plain counterparts [d, t] is that in addition to the closure made between the tip of the tongue and the upper teeth in articulating these sounds, the back of the tongue is simultaneously raised against the velum and retracts towards the pharynx wall when pronouncing [dˤ, tˤ] (Abul-Jaleel, 1998, 160-172). For this reason the emphatics are traditionally known as velarised or pharyngealised sounds. However, it is now believed that neither velarisation nor pharyngealisation is the main distinctive feature of

these emphatic sounds. Rather, it is the tension of the root of the tongue during their articulation which plays the major role in defining the emphatics and distinguishing them from their plain counterparts (Brame, 1970, 15).

### 1.1.1.2. Fricatives

There are eleven fricatives in TA; one labio-dental [f], three alveolar [z, s, sˤ], two post-alveolar [ʒ, ʃ], two velar [ɣ,x], two pharyngeal [ʕ, ħ] and, finally, one glottal [h]. The sounds [z, ʒ, ɣ, ʕ] are voiced while [f, s, sˤ, ʃ, x, ħ, h] are voiceless. Fricatives are articulated by narrowing the airstream through the mouth to make the air escape through a narrow passage resulting in some form of friction. The air escapes between the lower lip and the upper teeth in [f], the tongue blade and the alveolar ridge in [z, s, sˤ], the tongue blade and an area which is partly alveolar partly palatal in [ʒ, ʃ], the tongue back and the velum in [ɣ, x], the tongue root and the pharynx wall in [ʕ, ħ] and, finally, between the vocal folds in the glottal [h]. What distinguishes [s] from [sˤ] is that, in addition to narrowing the air stream between the tongue blade and the alveolar ridge in both of them, the tongue simultaneously raised against the velum and retracts towards the pharynx wall during the production of [sˤ]. As noted before, however, it is the tensing of the

4

root of the tongue which generally characterises emphatic sounds in Arabic.

### 1.1.1.3. Nasals

There are two nasals in TA. They are the bilabial [m] and the alveolar [n], both of which are voiced sounds. In producing nasals, the air passes through the nose by lowering the soft palate to open the nasal passage. This adds the resonance of the nasal cavity to that of the oral cavity behind the closure, which is between the lips in [m] and the tongue tip and the alveolar ridge in [n].

### 1.1.1.4. Liquids

TA liquids are the lateral [l] and the alveolar [r]. In producing liquids some obstruction is made in the mouth without causing any friction. When articulating the lateral [l], the tongue tip is in contact with the alveolar ridge allowing the air to rush on both sides. When the [l] produced is clear, the tongue front is simultaneously raised against the hard palate, but when the [ɫ] is dark, it is the tongue back which is raised against the velum this time. The use of these allophones is context dependant. Dark [ɫ] occurs only in the environment of the emphatic sounds [tˁ, dˁ, sˁ] and exceptionally in the word *Allah* (God) in which the sound is also dark. Otherwise clear [l] is used.

5

(1) [tˤɫɑb] asked for   [dˤɫɑm] treated unfairly     [sˤɫɑɑtɑ] salad


The TA [r] can be trill or flap. While trill [r] involves successive taps by the tongue tip on the alveolar ridge, flap [r] requires only a single tap by the tongue tip at the same point of articulation. The variety of [r] is also context dependant. Trill [r] is pronounced in geminates or when it occurs final in a syllable (Sweid & Mustafa, 1993, 167) as in (2) below.


(2)     *Syllable final*                    *Geminates*

        [mɑr.kɑs]  centre                   [mɑrrɑ] once

        [fur.sɑ] chance                     [bɑrrɑ] outside


Flap [r], however, is used elsewhere in words like those in (3) below.


(3)     [rgɑs] danced        [srɑg] stole       [ɣrɑs] planted


## 1.1.1.5.   Glides

The two TA glides are the palatal [j] and the velar [w]. When producing the [j] sound, the front of the tongue is raised against the soft palate without touching it, allowing the air to pass freely thorough the oral passage. The articulation of [w] involves

6

raising the tongue back against the velum accompanied with rounding of the lips. It is, therefore, known as the labio-velar.

### 1.1.2. Consonant Clusters

Although it is a recognised characteristic of Arabic that it does not allow for consonant clusters, a sequence that may consist of two consonant segments may be found word initially, medially or finally in TA as the examples in (4) show.

(4)

| *Word initially* | *word medially* | *word finally* |
|---|---|---|
| [rsɑm] drew | [tiktbu] you pl. write | [bint] a girl |
| [smɑʕ] heard | [tismʕu] you pl. listen | [lʕabt] I played |

### 1.1.3. Geminating

A final characteristic that may be mentioned here about consonants in TA is geminating or doubling of consonants in a word. It is erroneously thought that for a sound to be geminate, it should be pronounced longer than usual. In fact, a consonant sound can be made long without becoming a geminate. If the sound [l, n, s], for example, are prolonged in words such as [mɑ*l*hɑ] night club, [mɑ*n*di:l] handkerchief and [mɑ*s*bɑħ] swimming pool, these sounds will not turn into geminates. Moreover, the nature of the

7

plosives prevents from making them long since these sounds are only audibly realised when they are released and this release phase cannot be made long.

Therefore, for a sound to be called a geminate, it should be pronounced twice in a successive way with no other sound intervening but a vocalic sound must follow as in the following examples:

(5)    [mɑrrɑ] once    [sɑmmɑ] named    [ʃiddɑ] hardness

## 1.2.  Vowels

TA has a relatively small number of vowels. They consist of three short [i, ɑ, u] vowels, four long ones [iː, eː, ɑː, uː]  and two diphthongs [ɑi, ɑu, ui] (Muftah, 2001: 78-90). These vowels are discussed in more detail in the following subsections.

### 1.2.1.  Classification

TA vowels can be represented on a quadrilateral to show their quality values as in (6).

(6) TA vowels



8
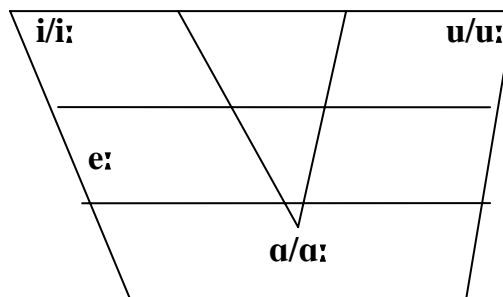
We notice from the quadrilateral that TA has four main vowel qualities three of which are realised into two forms each; a short and a long form [i/i:, u/u:, ɑ/ɑ:] while the fourth quality [e:] is only realised in its long form.

**-[i] / [i:]** as in [mijɑ] *a hundred* and [li:m] *oranges*. It is a high front vowel. When articulating it, the lips are spread and the tongue is lax in its short form but tense in its long form.

**-[u] / [u:]** as in [rud] *give back* imp. and [ku:l] *eat* imp. It is a high back vowel. The lips are round and the tongue is tense in its long form but remains lax when producing the short form of the vowel.

**- [ɑ] / [ɑ:]** as in [dɑf] he pushed and [gɑ:l] he said. It is a low vowel produced by maintaining the tongue in a fully open position. The lips are neutrally open and the tongue is a little bit tense during its long form, lax during its short form.

## 1.2.2. Allophonic variation

All TA vowels are phonetically realised in two allophones each; a plain allophone and an emphatic allophone. Emphatic allophones are more retracted and lower than their plain counterparts. Since emphatic vowels are used when adjacent to emphatic consonants, such backing and lowering seem to be physiologically inevitable. The speech apparatus reduces the required amount of oral physical effort by cutting out the need to

move the tongue from an emphatic consonant position to a plain vowel position and, thus, the vowel itself becomes emphatic. The fact that emphatic consonants have also an effect on the preceding vowels is illustrated through the following examples.

(7) [batˤtˤɑ] duck        [mɑdˤi] past            [fu:tˤɑ] towel

### 1.2.3.  Vowel length

Apart from the vowel [e:], which is only realised in TA as a long vowel all other vowel qualities are realised in two forms; a long and a short form with a little change in its quality in addition to the fact that the tongue is tenser in the production of long vowels than in that of short vowels. The distribution of the long forms is as that of the short forms as the examples in (8) show:

(8) [rɑd] he brought back        [rɑ:d] (if Allah) wills

   [ful] jasmine                [fu:l]  beans

   [lim] gather imp.            [li:m] oranges

The examples above indicate that length is phonemic in TA. Length is the only feature that makes these minimal pairs significantly different.

### 1.2.4. Diphthongs

Besides the two diphthongs [ɑi] and [ɑu] which are available in both the standard and the dialectal varieties, TA also has [ui]. The two diphthongs [ɑi, ui] are fronting while the diphthong [ɑu] is backing as shown below:

(9)
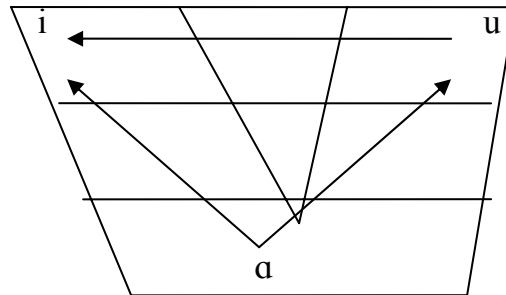


-**[ɑi]** as in [rɑi] opinion, [hnɑi] my happiness, [xɑif] afraid. In its articulation, the fronting diphthong starts from the low front vowel [ɑ] and then glides towards the high front vowel [i]. The lips are neutrally open and the tongue is lax during the first part of the diphthong but the lips become slightly spread and the tongue is tenser during the articulation of the second part.

-**[ui]** as in [bui] my father, [xui] my brother. In the articulation of this diphthong, the tongue glides from the high back vowel [u] to the high front vowel [i]. The lips are rounded and the tongue is tense during the first element of the diphthong but the lips will

become neutrally open and the tongue becomes lax during the second element of the diphthong.

**-[ɑu]** as in [tɑulɑ] table, [ʔɑu] or, [nɑujɑ] she intends. The starting point of the backing diphthong is the same as that of [ɑi], the low front vowel [ɑ] and the glide ends at the high back vowel [u]. the lips are neutrally open and the tongue is lax when articulating the first part of the diphthong but the lips move to a rounded position and the tongue becomes tense during the second part.

# PART II: SUPRASEGMENTAL PHONOLOGY

## 2.1. Syllable structure

While consonant clusters are banned in the standard variety of Arabic, these clusters can be found in TA initially and finally in the syllable. The following examples illustrate the syllable forms available in the dialect.

(10)    CV      [ktɑb.tu] you (pl.) wrote, [ʃuf.tɑ] I saw him

        CVC    [min] from, [mɑl.ʕab] stadium

        CCV    [ktɑ.bil.hɑ] he wrote to her, [tbɑ.xil.hɑ] he cooked
               for her

        CCVC [ʃrɑb] he drank, [smɑʕ.ti] you (fem.) heard

        CVV    [lɑɑ] no, [gɑɑ.lu] they said

CVVC [ʕeen] an eye, [mʒɑɑniin] crazy (pl.)

CVCC [ħɑrb] war, [dɑrb] beating

CCVVC [blɑɑd], [rmɑɑd] ashes

CCVCC [kburt] I grew up, [frɑħt] I became happy

CCVV [mʃee] he went, [mnɑɑ.ʃif] towels

The initial and final clusters found in some syllable forms are a result of a process of vowel deletion which is further illustrated in the following section.

## 2.1.1. Vowel deletion

It has been argued (Al-Ageli, 1995: 129) that the initial and final clusters in TA result from a language specific rule known as vowel deletion rule that applies to underlying forms which then surface with initial and/or final clusters. This rule can be formulated as follows:

(11)    V $\longrightarrow$ Ø  / C _ CV

To illustrate this rule let us consider the following examples:

(12)    MSA FORM        TA FORM        MEANING

[rɑsɑm]              [rsɑm]              he drew

13

| | | |
|---|---|---|
| [samaʕ] | [smaʕ] | he heard |
| [ʕamɑl] | [ʕmɑl] | he worked |

By applying the rule to the MSA form CVCVC, the TA form CCVC is obtained. It is also clear that the rule only applies to open syllables followed by CV sequence and, therefore, the second vowel in the above mentioned words will continue to surface because it is in a CVC sequence rather than a CV one. However, a further investigation in the above mentioned words will show that the final CVC is in fact CVCV. That is clearly seen in the underlying forms of the MSA words which are as follows:

(13)    [rɑsɑmɑ]               [samɑʕa]               [ʕɑmɑlɑ]

Therefore our deletion rule needs to be modified to include the deletion of vowel not only word initially but also word finally. It could be as the one in (14).

(14)    V  ⟶  Ø  / C _ CVC_

Now the deletion of the final vowel in the above mentioned words is accounted for. This also accounts for the availability of final two consonant clusters in TA in words such as the following.

14

(15)     [kburt] I grew up   [rbɑħt] I won        [fħɑmt] I understood

The underlying form of these words is as the ones in (16).

(16)     [kɑbirtu] I grew up      [rɑbiħtu] I won

[fɑhimtu] I understood

By applying the vowel deletion rule on the above mentioned words, we obtain the words in (15) above. Also, it can be noticed that the second vowel in the underlying forms of these words has undergone change in quality. However, further data will cast doubts on the accuracy of this rule which therefore needs further modification. Consider the following examples which also undergo medial vowel deletion in addition to the deletion of the initial vowel.

(17)   MSA                                    TA
       [mɑnɑɑzilɑhum] their houses  ⟶  [mnɑzilhum]
       [mɑsɑɑʒidɑhum] their mosques  ⟶  [msɑʒidhum]
       [mɑsɑɑniʕɑhum] their factories  ⟶  [msɑɑniʕhum]

15

It can be concluded then that the vowel deletion rule works iteratively on the whole word from right to left deleting a short vowel in an open syllable (Al-Ageli, 1995: 130).

This will not only account for initial and final clusters but also for medial clusters as well as those in the following examples:

(18)    MSA                              TA

        [tɑsmɑʕuu] you (pl.) hear        [tismʕuu]

        [tɑxdimuu] you (pl.)serve        [tixdmuu]

        [taʕmɑluu] you (pl.) work        [taʕmluu]

## 2.1.2. Sonority violation

Across languages, sonority plays a major role in identifying syllables in that most sonorous sounds occupy nucleus positions and the least sonorous ones occupy the margins of the syllable. This is captured in terms of a general principle of sonority called the Sonority Sequencing Principle (SSP) which can be stated as in (19) below (Selkirk, 1984a, 116).

(19)    In any syllable, there is a segment constituting a sonority
        peak that is preceded and/or followed by a sequence of
        segments with progressively decreasing sonority values.

16

Accordingly, sounds may be leveled in what is known as a sonority scale according to their sonority values as follows:

(20)    Sonority Scale 5 vowels

4 glides

3 liquids

2 nasals

1 obstruents

A one element onset poses no problem for the phonotactic constraints which govern the structure of the syllable such as SSP. The sonority profile rises from the onset consonant towards the nucleus of the syllable as in the words [min] *who* and [bis] *only* which can be further illustrated as in (21).

(21) Sonority profile



m    i    n          b    i    s
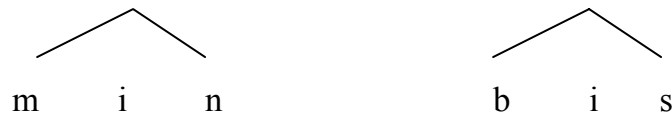
However, the following examples seem to show sever violation to SSP with respect to their onsets.
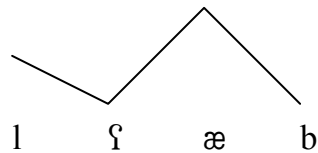
(22)    [lʕæb] he played        a liquid + an obstruent

[msæħ] he wiped        a nasal + an obstruent

[lmæs] he touched      a liquid + a nasal

17

The sonority profile for these words begins high at the first element of the onset and, then, unexpectedly falls towards the second element before it rises again towards the nucleus of the syllable. This can be exemplified through the word [lˤæb] as follows:

(23)  Sonority profile



```
                    /\
                   /  \
    \             /    \
     \           /      \
      \         /        \
       \       /          \
        \     /            \

    l      ʕ      æ      b
```

However, the underlying forms of the words in (22) are as these in (24) below.

(24)    [læʕæb] he played            [mæsæħ] he wiped

        [læmæs] he touched

These underlying forms undergo vowel deletion and are realized as those which seem to contradict SSP. A solution for such contradiction is suggested by Kenstowicz (1994a, 261-269) and Al-Ageli, 1995: 118) who argue that the SSP effect is limited to core syllable types. Then violations such as those above are incorporated to the margins of words through the application of language specific stipulations. Therefore, the initial consonants of the words

above are parsed to the adjacent syllable by Onset Incorporation (Al-Ageli, 1995: 129) after the effect of SSP has taken place on core syllables. The Onset Incorporation rule works as follows:

(25)
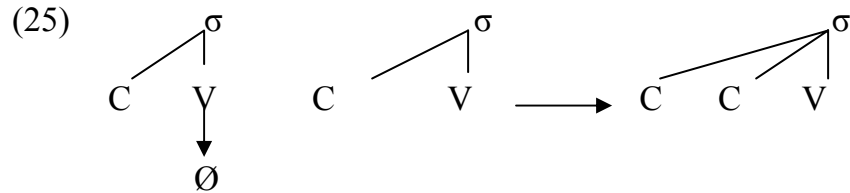


## 2.2. Stress pattern

Stress in TA works in a straightforward way. The rules and parameters settings as suggested by Al-Ageli, (1995: 212) work as follows using the words [mistábʃir] *optimist* and [mustɑɣíːl] *resigned* as examples.

i.      Syllable heads are stress bearers.

   * * *                    * * *      line 0

[mistǽbʃir]            [mustɑɣíːl]

ii.     Mark a final syllable extrametrical unless superheavy.

   * * <*>                * * *       line 0

[mistǽbʃir]            [mustɑɣíːl]

iii.    Construct binary, left headed constituents from right-to-left on line 0 and mark the heads with an asterisk on line 1.

```
  *   *                        *    *          line 1
(*)(*)<*>                    (*  *) (*)         line 0
[mistǽbʃir]                 [mustɑɡí:l]
```

iv.    Construct an unbounded, right-headed constituent on line 1 and mark the head with an asterisk on line 2.

```
  *                           *          line  2
 (*  *)                      (*     *)    line  1
(*)(*)<*>                    (*  *) (*)   line 0
[mistǽbʃir]                 [mustɑɡí:l]
```

As can be noticed from this rule, TA sees the final consonant as a part of the preceding syllable which contributes to its weight contrary to what takes place in the standard variety which considers the final consonant of a word as belonging to a following syllable not a preceding one. Thus, in the dialectal variety a distinction is made between light and heavy syllables on one hand and superheavy ones on the other, and consequently superheavy syllables do not undergo extrametricality. Word internally, both MSA and TA distinguish between heavy and light syllables; only heavy syllables are accented in both varieties.

However, the following words in TA differ in their stress from their counterparts in MSA.

(26)  MSA          TA          MEANING

[kátɑb]      [ktáb]      he wrote

[láʕib]      [lʕáb]      he played

[ʃárib]      [ʃráb]      he drank

The apparent cause for the change here is vowel deletion. The dialectal words become monosyllabic after deleting their first vowel of their underlying forms, which are similar to those of MSA. Since these words are monosyllabic, extrametricality does not apply on them. If it did, it would remove the only possible domain for stress assignment (Hayes, 1995, 58).

However, although the following words are not monosyllabic, extrametricality fails to apply and the final syllable receives stress though it is not superheavy contrary to what is required by the stress rules of the dialect.

(27)  [ʔinktáb] was written      [ʔinʃráb] was drunk

[ʔinksár] was broken

Stress falling on the final syllable though not superheavy will not be surprising if we see the underlying forms of these words. They are as those in (28) below.

(28)    [nktáb]         [nʃráb]         [nksár]

It is clear now that stress, though applies after the process of vowel deletion, is assigned prior to the process of epenthesising the initial vowel preceded by the glottal stop [ʔ] (Al-Ageli, 1995: 212).

## CONCLUSION

This work has discussed the dialect spoken in Tripoli/Libya, and which is known as Tripolitanian Arabic (TA). The aim was to investigate the phonological aspect of the dialect and to shed light on its main characteristics. Therefore, the paper was divided in two main parts. The first part discussed the sounds of the dialect and how they are produced. The second part concentrated on the distribution of these sounds in higher levels.

Although the researcher tried to cover the important points related to the phonology of the dialect, it was impossible in such a limited space to deal with its richness in more detail; many other aspects remain ambiguous and need to be investigated. Another factor is the shortage of relevant resources which made the researcher depend on his own knowledge as a native speaker of the

dialect especially with regard to the examples given. It is, therefore, a recommended task to those who are interested in the study of language to try to explore TA and its interesting features.

## REFERENCES

Ahmed, A. (2008) *Production and Perception of Libyan Arabic Vowels* (PhD). University of Newcastle Upon Tyne.

Abdul-Jaleel, A. (1998) *ʔæl-ʔɑswæt ʔl-luɣæwijæh*. Amman, Jordan: DAR SAFA Publishing & Distributing.

Al-Ageli, H. M. (1995) *Syllable and Metrical Structure in Tripolitanian Arabic*. Doctoral Dissertation, University of Essex.

Brame, M. K. (1970) *Arabic phonology*. Doctoral Dissertation. Massachusetts.

Hayes, B. (1995) *Metrical Stress Theory: Principles and Case Studies*. Chicago: University of Chicago Press.

Muftah, A. (2001) *English and Arabic Sound Systems*. MA Thesis, Tripoli: Alfateh University.

Selkirk, E. (1984) *On the major class features and syllable theory*. In M. Aronoff and R.T. Oehrle (eds.), Language Sound Structures. Cambridge: MA: MIT Press.

Sweed, A. & Mustafa, A. (1993*) ʕilm ʔæl-luɣæh*. Tripoli, Libya: Old City Publishing.

Roach, P. (1995) *English Phonetics and Phonology*. 2nd ed. Cambridge: Cambridge University Press.