Abstract: The linguistic variety spoken in Cairo follows phonetic rules that depend primarily on the syllabic structure of the phonological word and the new syllabic structure of the phonological phrase. This paper develops these rules systematically describing the Cairene Arabic phonotactic that deals with syllabic structure, shift of stress in discourse and their effect on vowels or rhymes. It shows the way the syllabic structure determines the placement of stress in the phonological word whatever its grammatical category is and the effect of this stress within the phonological phrase in which the word is involved while being uttered.

Resumen: La variedad lingüística coloquial en El Cairo sigue normas fonéticas que dependen primeramente de la estructura silábica de la palabra fonética y de la nueva estructura silábica de la oración fonológica. Esta investigación se centra en estas normas; describe la estructura fonética del árabe coloquial de El Cairo relacionada con la estructura silábica, el cambio de la intensidad durante el discurso y sus efectos sobre las vocales. La investigación muestra también cómo la estructura silábica determina el emplazamiento del acento en la frase fonológica cualquiera que sea su categoría gramatical así como el efecto de esta intensidad acentual dentro de la oración fonológica que se va formando a medida que se produce el discurso oral.

Key words: Phonology. Cairene Arabic. Syllable. Stress. Suffixation. Rhymes.


Recibido: 18/03/2014 Aceptado: 04/07/2014

1. INTRODUCCIÓN

When a native Arab speaks, he/she produces long vowels and tonic accents in his/her speech which might appear obscure to non-natives, used to read and listen to Classical Arabic linguistic variety with its special phonology. In his/her act of speech, the native Arab follows instinctively many phonetic rules that depend on the syllabic structure and stress patterns of the phonological word and phrase. This study aims to develop these rules systematically, describing the Cairene Arabic phonotactic that deals with syllabic structure, shift of stress in discourse and their effect on vowels or rhymes. It shows the way the syllabic structure determines the placement of stress in the phonological word whatever its grammatical category is and the effect of this stress within the phonological phrase in which the word is involved while being uttered.

primarily on the syllabic structure of the phonological word and on the new string
of syllables in the phonological phrase formed by adding suffixes or clitic group2.
All colloquial linguistic varieties are spoken within grammatical constraints of the
language normalised in Classical Arabic variety3.

This paper examines the Cairene colloquial linguistic variety4 to show how
the syllabic structure determines the place of stress in the phonological word
whatever its grammatical category is, and the reaction of this stress within the
phonological phrase in which the word is involved while being spoken5. Because
the Cairene variety is stable in its phonetic performance, these rules are regularly
followed by the speaker in his/her speech and are easily spotted as will be shown
in this paper.

2. SYLLABLES AND THE SYLLABIC TYPOLOGY OF CAIRENE ARABIC

The syllable has been traditionally considered the basic unit of phonological
analysis in Arabic language as an “onset syllable” whether of the Classical Arabic

2. The terminology used in this paper is the one established by Nespor and Vogel given that it is the
most adequate phonological theory expressing the taxonomy of the colloquial variety discussed in this
paper, Marina Nespor and Irene Vogel. Prosodic Phonology. Dordrecht-Holland/Riverton-USA: Foris

3. Each of the uncountable colloquial varieties of the Arabic language has its own phonologic par-
ticularities within the general templates provided by the grammatical structure of the language, Kris-
ten Brustad. The syntax of spoken Arabic. A comparative study of Moroccan, Egyptian, Syrian and Ku-
phonology is an important issue in international theories, Juliette Blevins. “The syllable in Phonologi-
cal Theory”. The Handbook of phonological theory. John Goldsmith (Ed.). Oxford-Massachusetts:
Handbook of phonological theory. John Goldsmith (Ed.), Oxford-Massachusetts: Blackwell Publish-

4. As a general observation and without any statistic data, it seems that Cairene variety is the most
renowned dialect among phonologists not specialized in Arabic Linguistics. This is probably due to
the plethora of research already done by Arabist on the topic, Manfred Woitich."Cairo Arabic”. Ency-
clopaedia of Arabic Language and Linguistics (EALL). K. Versteegh et alii (Eds.). Leiden: Brill,

5. The stress or accent is the highest intensity of a prominent syllable in a phonologic word, René
bic and word structure in the Modern Arabic dialects. Lovaina: Orientalia Gandensia V, 1972; Morris
Halle and Idsardi William. “General properties of Stress and metrical structure”. The Handbook of pho-
443. As described by T. F. Mitchell. “The accented syllable typically carries the strongest stress (or
breath force) and the highest pitch, T. F. Mitchell. Pronouncing Arabic 1. Oxford: Clarendon Press,
1990, pp. 102-103.
variety or the colloquial varieties. Consequently, the syllable is the basic unit in this paper and the syllable’s rhyme is described by its phonological length or quantity, long or short.

There are five types of syllables in Cairene Arabic.


8. Minuscule “k” and “u” are used here to represent the onset and the rhyme and not the usual capital “C” for Consonant and “V” for Vowel to enable writing the tonic accent on the vowel “u”, using the Spanish enabled computer.


1. Open syllable with short vowel /ku/, like the first syllable in ُكُتَبُ (kataba)\(^{11}\);
2. Open syllable with long vowel /kû/, like the first syllable in ُكُتَبُ (kāṭeb);
3. Closed syllable with short vowel /kuk/, like the first and the second syllable in ُمَكْتَبُ (maktabun);
4. Closed syllable with long vowel /kûk/, like the second syllable in ُكِتَابُ (kitāb);
5. Double closed syllable with short vowel /kukk/, like the second syllable in ُكَتَابُ (katabt).

In these examples three of the five words are stressed with intensive prominence in one of the syllables: the short and open syllable /ku/ of ُكُتَبُ, the short and closed syllable /kuk- in the first syllable of ُمَكْتَبُ and the vowel of the double closed syllable /-kukk/ in ُكَتَابُ.

These are precisely the words that contain no long vowels. In the other two cases, the long vowels are situated on the first long and open syllable /kû/ in ُكُتَبُ and on the final long and closed syllable /kûk/ of ُكِتَابُ with no stress on the phonological word. Any phonological word, regardless its grammatical category, whether it is a verb, noun, adjective or adverb, is stressed according to this basic syllabic structure as will be shown.

### 3. Basic Stress Patterns at the Phonological Word Level

The syllable on which a Cairene speaker naturally places his stress is variable although there are three fixed positions. Those are the following ones:

a. At the end of phonological word when ending with a double closed syllable /-kukk/ as in ُسَمْسُ (šamsun), ُدَارَبُ (dārabtu; dāraba), ُإِنْشَاغَّلُتُ (inšaghaltu; inšaghalta),

---

\(^{11}\) The classical equivalent to the dialectal word is provided between brackets. When talking about verbs, their normalized equivalent is provided too. Besides person, gender and number are specified in case of ambiguity; nouns are given in nominative, generally with ُتَانِوْنَ of no definiteness. The transcription of each variety is different. In Classical variety the traditional central-European transliteration system is used (Federico Corriente, “Acerca de la transcripción o transliteración del código grafémico árabe al latino, particularmente en su variante castellana”, Miscelánea de Estudios Árabes y Hebraicos. Sección Árabe-Islam, 51 (2002), pp. 361-368.

In dialectal variety the transcription used is the one established by Fischer and Jastrow and followed in Abboud-Haggar, 2010. Dialectal transcription is presented in cursive type and a circumflex accent as long vowel. Stress or accent is represented on the stressed vowel with a tonic accent, (W. Fischer and O. Jastrow. Handbuch der arabischen Dialekte. Wiesbaden: Harrassowitz Verlag, 1980.

b. On the first syllable when the phonological word is composed by 2 or 3 /-ku-/ short open syllables as in háwa (“hawā‘un”), bá’ara (baqaratun), or kánaba (from French canapé, couch)13.

c. The absence of stress is another fixed position. It occurs when there is a long vowel in a final long and closed /-kû/ syllable. The long vowel prevents stress whether it occurs in a mono-syllabic word like šēf (ṣayf), a bi-syllabic word like mandīl (mandīlun), or a tri-syllabic word like baragīt (baraghītun).

Besides these three fixed cases, stress is placed in variable positions depending on the syllabic structure, as shown in the following cases14.

1. In a bi-syllabic phonological word with a syllabic structure composed by an open short and a closed short syllable /kuk/, accent is placed on the first syllable /kúk/:  
   E.g. lában (labanun), dáxal (dahlala).

2. In a bi-syllabic word with a structure composed of two closed short syllables /kukkuk/ or a closed short and an open short syllable /kukku/, stress is placed on the first syllable /kúkkuk/ and /kúkku:/  
   E.g. kássar (kassara); mákta (maktabun); göm’u (ğumu‘atun), mánso (mansiyun).

3. In a tri-syllabic phonological word with a structure composed of open short, open short and closed short syllables /kuukuk/, stress is placed on the first syllable /kúukuk/:  
   E.g. házamet (hazamat), xaráget (ḫarağat).

4. In a tri-syllabic word with a structure composed of a closed short, open short and open short syllable /kukkuku/, stress is placed on the second syllable /kukkuku:/  
   E.g. maktāba (maktabatun), madrāsa (madrasatun).

5. In a tri-syllabic word with a structure composed of open short, closed short, and open short syllables /kukkuku/, or closed short, closed short, and open short syllables /kukkuku/, stress is placed on the second syllable /kukkuku/ and /kukkuku:/.  

13. Tomiche. Le parler arabe, pp. 78-93 and Woidich. “Cairo Arabic”, p. 326. Nevertheless, there are a few cases of plurals that do not follow this general rule like bunīka (plural of bank, from English ‘bank’), sabīta (plural of sabat from Persian ‘basket’) and sabīta (plural of sabt, ‘Saturday’), Woidich. ibidem, p. 325.

14. The examples given in this section are mainly phonological words, without clitic word. Nevertheless, in tetra-syllabic words, in which the placement of stress still depends on the syllabic structure, the examples given are phonological words with clitic word. Longer syllable strings are not considered here because the placement of stress is decided in the last three syllables, Angoujard. “Accentuation”, p. 63; Mitchell. Pronouncing, p. 115.
E.g. Ḍarábna (ḍarabnā); ṣagálna (ṣagalnā); maṣḡálna (maṣgalunā), maktábna (maktabunā).

6. In a tetra-syllabic phonological word with a structure composed of a closed short, open short, and closed short syllables /kukkukukuk/, the second syllable /kukkukukuk/ is stressed:
   E.g. 'enḥázamet ('inḥazamat), 'elṭázamet ('iltazamat).

7. In a tetra-syllabic word with a structure composed of open short, open short, open short and closed short syllables /kukukukuk/, the third syllable /kukukukuk/ is stressed:
   E.g. ṣatamétek (ṣatamatuki), ḏarabétak (darabatuka).

8. In a tetra-syllabic word with a structure composed by closed short, open short, closed short, and open short syllables /kukkukukku/ or open short, open short, closed short and open short /kukukukku/, the third syllable is stressed:
   /kukkukukku/ and /kukukukku/.
   E.g. märkebéthom (markabatuhum); moloxéyya (muluḫiyyatun); 'amarétna (qamaratunā).

Any phonological word, regardless its grammatical category, whether it is a verb, noun, adjective or adverb, is stressed according to these basic syllabic structures.

4. FEATURES OF CAIRENE STRESS

Based on these observations on syllabic structures, four basic features of stress in Cairene must be highlighted.

1. Stress is automatic and predictable
   a. A short closed syllable /kuk/, standing in penultimate position in whatever syllabic structure, whether formed by 2, 3, 4, 5, 6 or even 7 syllables –without a double closed syllable or closed long syllable at the end of structure– always attracts the accent. The following are examples of closed short syllables found in penultimate position in frequently used syllabic structures:
      a. Bi-syllabic: ‘áḥmad (Aḥmadu), bāḥga (bāḥgatun);
      b. Tri-syllabic: ‘amálna (‘amalnā), ra‘ádna (ra‘ādnā);
      c. Tetra-syllabic: ‘amáléyya (‘amaliyyatun); maḥṣubéyya (maḥṣūbiyyatun);
         ṣagálétna (ṣagalatnā); ḏarabéthom (darabathum).

   The prominence of the intensity of the short and closed syllable /-kuk-/ falling in the penultimate position of the phonological word or phonological phrase, even in a long syllabic string is one of the main features of Cairene rhythm15.

b. Only one long vowel is tolerated, either at the end of the phonological word or at the end of the phonological phrase. This is why in words that in fuṣha bear a double long vowels like “sābūn”, “qānūn”, or in words whose plural is formed by two long vowels like “manāḍil” or “fāwānīs”, only one long vowel, the last one on the last syllable, is pronounced by natives: šābūn, 'ānūn, manadīl, and fāwanīs;

c. No long vowel at the end of the phonological word or the phonological phrase in an open syllable is tolerated. This shortening occurs in the final long [ʔ] of the third person plural in verbs which become a short [o], like in shérbo (šaribū) and féhmo (fahimū), and in the clitics of verbal suffixes like -hā, -nā, -nī or -ī as in šāfha (ra’āhā), šāfna (ra’ānā), šāfni (ra’ānī) or ‘āndi (‘indī).

2. Stress shifts

Stress in Cairene Arabic is also considered mobile because it shifts its position depending on the readjusted new syllabic structure formed when uttered. Mobility of stress will be examined in four situations: with a suffixed clitic group, whether entire syllables or ill syllable as determined by grammatical constraints; when the junction in speech with other phonological words takes place, generally not obeying to any grammatical constraint; when a consonant cluster occurs because of grammatical causes or phonetic ones; and finally when the constructive state of ɪḍāfa changes the syllabic structure.

1. Stress shifts with clitic suffixation, usually pronouns. These can be a complete syllable or part of it:

• 'ātal (qatala), 'ātalha (qatalahā), 'atalētkom (qatalatkum), 'atalnāha (qatalnāhā);
• fāta (fataḥa), fātta (fattah), fattāhha (fattahahā), fattahnālhom (fattahnā lahum), fattahnahālhom (fattahnā iyyāhā lahum), fattahnahomlōhom (fattahnā iyyāhum lahum).
• bāla (balaḥun), bālaḥa (balahātun), balāhto (balahathu), balahēna (balahātunā).

Accenting motivates a re-syllabification of the syllabic string on the phonological phrase level and affects it following the dialect’s phonetic rules.

2. Stress shifts in a consonant cluster: A definitive element in suffixation, directly related to the accent and rhythm of speech in Cairene Arabic, is the intolerance of a three-consonant cluster anywhere in the phonological word. This cluster motivates the insertion of a vowel of disjunction, which generally is a schwa.
that is inserted between the second and the third consonant\textsuperscript{16}. The epenthetic vowel can also be [a] or [o] for vocalic harmony purposes, this additional vowel can be stressed or maintained unstressed in the new phonological phrase, depending on the syllabic structure and on the rules of accent that govern speech. Some examples are given in the following paragraph:

a. In a mono-syllabic word formed by one double closed syllable, any suffixation will open the double consonant cluster, affect the original stressed vowel of the syllable, and make it change.

\begin{itemize}
  \item \textipa{báxt} \rightarrow \textipa{báxt-na} \rightarrow \textipa{baxt-é-na}\textsuperscript{17} (baḥtun; baḥtunā);
  \item \textipa{báxt} \rightarrow \textipa{báxt-hom} \rightarrow \textipa{baxt-ó-hom}\textsuperscript{18} (baḥtun; baḥtuhum).
\end{itemize}

b. The junction of two words easily results in a three-consonant cluster which then requires separation with a disjunction vowel and a “re-syllabification” of the phonological phrase.

\begin{itemize}
  \item \textipa{mádd réglo(h)} \rightarrow \textipa{madd-e-réglo(h)} \rightarrow \textipa{madderéglo(h)}\textsuperscript{19} (madda qadamahu);
  \item \textipa{šáms belâdi} \rightarrow \textipa{šams-e-b(e)lâdi} \rightarrow \textipa{šamseblâdi}\textsuperscript{20} (šamsu bilâdī);
  \item \textipa{‘el-kálb da} \rightarrow \textipa{’ekkálb-e-da} \rightarrow \textipa{’ekkalbéda}\textsuperscript{21} (hādā al-ḫalb).
\end{itemize}

3. Stress shifts in genitive cases

Another fundamental aspect of phonology, related directly to Cairene Arabic’s accent and rhythm of speech is the formation of the “Construct State” (\textit{idāfa form}) in feminine nouns. As normalized in Arabic \textit{fusba}, these nouns ended with a tā’ marbūta, that were elided phonetically in dialectal speech and replaced by an open final short rhyme [-a], as a feminine marker. The suffixation of the second phonological word of the \textit{idāfa} to the first phonological one implies the insertion of a /schwa + -t-/ syllable. The insertion of this ill-formed syllable gives way to a “re-syllabification” of the newly formed phonological phrase following stress patterns already shown above.

The following are examples of the stress in these cases:

\begin{itemize}
  \item \textipa{‘arûsa} \rightarrow \textipa{‘arusétha} (‘arūsatun; ‘arūsatunā)
\end{itemize}

\textsuperscript{16} As observed by Blevins, “the epenthesis is a strategy for saving otherwise un-syllabifiable strings”, Blevins. “The syllable”, p. 224. As stated before a three consonant cluster in Cairene Arabic cannot form a viable syllable, Tomiche. \textit{Le parler arabe}, pp. 42-43).

\textsuperscript{17} The syllabic structure becomes short closed, short open, and short open syllables /kukkuki/, with stress on the second syllable /kukkuki/.

\textsuperscript{18} The syllabic structure becomes short closed, short open, and short closed syllables /kukkukuku/, with stress on the second syllable /kukkukuku/.

\textsuperscript{19} The word is formed by short closed, short open, short closed and short closed syllables, /kukkukuku/ with the short and closed syllable in penultimate position stressed: /kukkukuku/.

\textsuperscript{20} The new phonological word is a succession of /kukkukkuki/, with one long vowel in an open syllable in penultimate position.

\textsuperscript{21} The new phonological word is a succession of /kukkukkuki/ with stress on the open syllable with short rhyme in penultimate position /kukkukkuki/.
27

— wārda → wardēti (wardatun; wardatf).
— ba’ara → ba’ar+e+to(h) → ba’arto(h) (baqara; baqaratuhu);

It should be observed that the [-et] (/schwa + -t-/) discussed here, which is the phonetic result of the ḫāda should be differentiated from the [-et] of the verbal suffix of the third person feminine singular; the latter is never elided because of grammatical constraint:

— šāmatet → šatameto(h) (šatamat; šatamathu).
— ‘āmalet → ‘amaleto(h) (‘amatal; ‘amalathu).

5. Effect of Stress on Vowels at a Phonological Phrase Level

Stress acts on long and short vowels in a very particular way giving the Cairene Arabic dialect its internal harmony and rhythm as observed in the following cases.

1. Effects of stress on long vowels

Stress affects long vowels by shortening their quantity and increasing their intensity.

1. Stress shortens the long rhyme of a closed syllable /–kūk/, positioned necessarily at the end of the enclitic phonological word or phonological phrase, and the long rhyme of an open syllable /–kū-/ positioned necessarily in the middle of the word22.

a. Shortening of the long rhyme of a closed syllable /–kūk/ at the end of word takes place when the syllable becomes a short double closed /-kukk/ syllable because of suffixation, as with the following verbs:

— texāf → mat(e)xāfs → matxāfs (taḫāfu; lā taḫāfu)23;
— tenshāl → matensālš (tuḫmal; lā tuḫmal);

b. It also occurs if the long closed syllable /-kūk/ becomes a closed syllable /-kuk-/ in the penultimate position because of suffixation:

— manadīl → manadīlhom (manādīlun; manādīlhum);
— muwazzafīn → muwazzafīnna (muwazzafūn; muwazzafūnā)


23. The elision of the vowel observed in this example and the following ones will be addressed in the next section.

— bēt → betēn (baytun; baytāni);
2. Shortening occurs in a long open syllable /-kû-/ when it falls in the middle of a word as shown in the following cases of suffixation:

a. If the clitic is a syllable with long vowel, the first long vowel is shortened:
   - sâ'a → sâ'-a-t-ên → sa'tên (sâ'atun; sâ'atâni);
   - sâ'a → sâ'ât (sâ'atun; sâ'âtun);
   - fâhem → fa-h-e-mîn → fâhmîn (fâhimun; fâhimûna; fâhimât).

b. If in the re-syllabified string the clitic forms a syllabic string with a short closed syllable /–kuk-/ in penultimate position the long vowel loses its quantity and is stressed:
   - wâled → wâldî (wâlidun; wâlîdî);
   - wâxed → wâxda (âhidun; âhidatun);
   - mâher → mâhra (mâhirun; mâhiratun).

2. Effects of stress on short vowels

Stress affects short vowels by their elision or their lengthening:

1. Rhyme elision: Although short rhymes in Cairene Arabic tend to be maintained in open and closed syllables, there are, nevertheless, some cases in which they are elided after suffixation because of the syllabic structure of the new phonological phrase in a stray erasure process:

a. Within the enclitic phonological word or phonological phrase as in the following examples:
   - mâleḥ → mâl(e)ja → mâlha (mâlihun; mâlihatun);
   - râbaṭo → râbaṭ+î+o+hom → râbaṭū+lîhom → râbaṭūl(î)hom → râbaṭūlhom (râbaṭū; râbaṭū la-hum).

b. When two phonological words come together in speech, as in the following examples:
   - 'âna fêhêmt → 'anâf(e)hemt → 'anâfhemt ('ânâ fâhîmû).
   - yâ Selîm → yas(e)lîm → yaslîm (yâ Salîm)

2. Lengthening of short rhymes: Re-syllabification affects the short rhyme in phonological word ending with an open syllable (/-ku/) by lengthening that rhyme that was a long vowel in Classical Arabic that had been shortened according to rules of speech. The following examples are taken from daily speech:

---

24. This shortening affects all of the “İsmu l-fâ’îl” present participles of the verbs in their Form I.
a. The /o/ of the 3rd person plural becomes /û/ with the suffixation of whatever grammatical element is added, forming a new syllabic structure as in the following examples:
- ḏárabo → ḏarabû(h) (darabû; ḏarabûhu);
- ḗāˈbo → ḗāˈbu(h) (lāʾabû; lāʾabûhu).

b. The first person pronoun /i/ becomes /î/: 
- šāfnî → mašafnîš (raʾānī; mā raʾānī);
- saleftrightarrow mēhnî → masameleftrightarrow nîš (sāmaḥanî, mā sāmaḥanî).

This lengthening occurs with the originally long /i/ of the defective roots as in the following examples:
- muḥâmî → muḥamînā (muḥāmī, muḥāmînā).
- râmî → râmîhom (rāmī, rāmîhum).
c. The originally shortened final hamza in /a/ word becomes /ā/ as in:
- hāwâ → hawấnā (hawāʾ, hawāʾunā);
- hānā → hanấki (hanāʾ; hanāʾuki).

It is also applied to distinguish the feminine in words which end with /a/ as in:
- ḥawấga → ḥawấga (ḥawấga)
- māngâ → mangấya 27 (mangu; manấtun)

6. CONCLUSIONS

The paper aimed at describing the basic rules that regulate stress in Cairene Arabic in order to explain the reasons that make Cairene speech sounds as it sounds to natives and to foreigner listeners. It also aimed at showing the vowel on which a foreigner reader has to put the stress while reading or speaking that dialect. The examples given were accompanied by their classical equivalent to help establishing the relation between the dialectal phonology and Classical variety28.

It also aimed at showing that dialectal phonetics and grammar are closely related. The first cannot be completely understood without taking into consideration the grammatical constraints of the language described in grammar books. Much more has to be studied about this fundamental relation to understand speaking process in Arabic dialectal varieties.

---

28. The description of the phonotactic of Cairene variety compared to Classical Arabic can be extended to any other Arabic dialect. It would allow a solid comparative platform between the uncountable Arabic dialectal varieties. K. Brustad. The syntax, pp. 1-3.
The importance of syllabic structure and stress in Arabic colloquial varieties is increasing\textsuperscript{29}. Not only that they have become valid criteria to distinguish between the uncountable dialectal varieties but it is also an accurate isogloss between those varieties. They are the way to assist introducing all dialectal varieties of Arabic in modern universal phonological and phonetic theories\textsuperscript{30}.


\textit{MEATH, SECCIÓN ÁRABE-ISLAM [0544-408X] 64 (2015), 19-30}