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Word-Accent and Syllable-Structure in Modern Standard Arabic

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Abstract

A rather common feature of 'Arabic English' is what can be called *misplaced accent*. A closer look at such instances of misplaced lexical accent suggested the presence of neat patterns. Native speakers of Arabic do **not** accentuate English polysyllabic words with a haphazard choice of the syllable to be accented. This suggestion led to an analysis of hundreds of Arabic polysyllabic words. This analysis consisted of asking a number of unsophisticated native speakers of Arabic to pronounce Arabic polysyllabic words. The analysis led to the division of Arabic syllables into *light* and *heavy* (*laghu* and *guru* as described in the ancient Indian work, *Taitreeya Praatishaakhya* [ṭaiṭri:ja prɑ:ti̯ʃɑ:kʰja], a phonetic treatise of the Yajur Veda). Analysing Arabic polysyllabic words as being made up of *light* and *heavy* syllables helps us establish rules for word-accent in Arabic. This analysis established the fact that in Arabic, syllable-weight determines lexical accent. This paper first establishes the importance of word-accent both for English and Arabic for the criterion of intelligibility of words and then gives an account of the types of Arabic polysyllabic words analysed and the results obtained.

Keywords: Word-accent, syllable-structure, light, heavy and superheavy syllables.

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Introductory

This paper presents the results of an investigation done over a period of two years, an investigation concerning word-accent in Arabic, done in Al-Hodeidah (Republic of Yemen) and Muscat (Sultanate of Oman). The phenomenon of word-accent was examined with the help of native speakers of Arabic, who served the researcher as informants. Forty native speakers of Arabic, educated as well as uneducated, were asked to pronounce a number of Arabic words made up of more than two syllables each, with a view to ascertaining which syllable of each of the words was accented by them. None of the informants chosen had any knowledge of linguistics or phonetics. Such unsophisticated informants were chosen to ascertain that their pronunciation of the words would be spontaneous and natural.

Literature Review

Word-accent in Arabic has been the subject of discussion in several books and papers. A number of works were consulted before attempting the present analysis of word-accent in Arabic. The first is a Ph.D dissertation by Abdo (1969). This, according to Brame, (1971) is "the first ….discussion of Arabic to be formulated in the generative framework." Abdo's conclusion is that in Arabic polysyllabic words (a) the last strong cluster (either a syllable of the structure VCC or V: -- a syllable made up of a short vowel and a consonant cluster or a syllable made up of a long vowel) is accented; (b) if there is no such cluster, the antepenultimate syllable of words with three or more syllables and the first syllable of disyllabic words are stressed.

The second work is a book by Ryding, (2005). Ryding's thesis is that "stress in Modern Standard Arabic ….is predictable and addresses to some general rules based on syllable-structure….In full-form pronunciation, Modern Standard Arabic stress falls either on the second or third syllable from the end of the word and on the final syllable of a word if that syllable is a super-strong one (CVCC or CVVC)".

de Jong and Zawaydeh (1999) have analysed Jordanian Arabic and based their findings on the pronunciation of four speakers of the Jordanian dialect. They examined the durational and fundamental frequency correlates of stress and concluded that "speakers exhibit extensive final lengthening effects and a smaller effect of stress and penultimate lengthening. Stress lengthening correlates with higher first formants, while penultimate lengthening does not."

Halpern (2009) is of the view that stress rules found in grammar books are often "incomplete, inaccurate and ambiguous." He has formulated a few rules for stress in Arabic, based on the structure in Arabic words made up of two or more syllables.

Motivated by the findings of these researchers, particularly by those of Ryding and Halpern, that stress in Arabic is straightforward and predictable, the present research was undertaken.

The syllable at the phonetic and phonological levels

In this paper the term *word-accent* refers to prominence, a phonetic and phonological quality that covers a syllable. While discussing syllables, one has to distinguish between two levels of analysis – analysis at the phonetic level and analysis at the phonological level. At the phonetic level, one syllable receives more prominence than another because its constituent elements show "higher pitch or

greater loudness or greater duration or greater excursion from the neutral disposition of the vocal tract "(Laver, 1994,511). This description obviously compares two syllables of identical structure. The syllable that is more prominent because of the exaggeration in value of any of the four phonetic parameters listed above is said to receive more stress.

Stress can also be considered as a phonological property of the syllable. Using two degrees of phonological stress, we can draw a distinction between stressed and unstressed syllables. This stress is referred to as *word-stress* or *lexical stress*. The term *accent* or *word-accent* is also used by linguists for the concept of lexical stress. Throughout this paper, the term *word-accent* is used in this sense.

Word-accent and intelligibility in English and Arabic

Word-accent seems to play a prominent part in both English and Arabic, in the sense that a misplaced accent (accent placed on the wrong syllable of a polysyllabic word) can (and does) render a word unintelligible to a native-speaker listener of both the languages. To cite two examples, Bansal (1976) in his monograph of the intelligibility of Indian English has pointed out the case of twenty native speakers of English, none of whom was able to recognize the word *director* pronounced by an Indian speaker of English. The Indian speaker pronounced the word as /ˈdɪrektə/ (with the accent on the first syllable), instead of as /dɪˈrektə/ (with the accent on the second syllable). Nineteen out of the twenty native-speaker listeners identified the word as *character*. There are, no doubt, strong segmental clues differentiating the first syllables of these two words (aspirated voiceless velar plosive [kʰ] and open long vowel [æ] in the word *character* as against the voiced alveolar

plosive [d] and the very short and much closer vowel [ɪ] in the word *director*). In

spite of these segmental clues, 95% of the listeners identified the word as *character*,

obviously led by the fact that the word *character* receives the accent on the first

syllable . (The twentieth listener couldn't identify the word at all!).

The second example pertains to Adeni Arabic. A native speaker of Arabic did not

recognize the Arabic word meaning *yoghurt* (the word < قطيب > [qɑˈtˤiːbˈ] , with the

accent on the second syllable) when the word was pronounced with the accent on the

first syllable. The voiceless uvular plosive and the velarized voiceless denti-alveolar

plosive were pronounced with native-speaker precision, but the native speaker of

Arabic just did not recognize the word just because of the accent placed on the wrong

syllable.

<p align="center">Word-accent in the English speech of Arabic speakers</p>

It is not uncommon to hear native-speakers of Arabic pronounce English

polysyllabic words with the accent on the wrong syllable. For example, the present

writer, in his nearly thirty years of teaching English to Arabic learners, has heard the

following pronunciations: (in the examples given below and elsewhere in this paper,

the segmental differences between the native-English versions and the "Arabic-

English" versions are not indicated because segmental differences between native

English and "Arabic-English" fall outside the scope of this paper.)

orange	pronounced	/oːˈrændʒ/
village	pronounced	/fɪˈleːdʒ/
hotel	pronounced	/ˈhoːtˌal/

canteen	pronounced	/ˈkænt̪iːn/
doctor	pronounced	/d̪ukˈt̪uːr/
carton	pronounced	/karˈt̪uːn/
forgot	pronounced	/ˈfoːrgɒt̪/

Prompted and rather intrigued by the fact that the English polysyllabic words, pronounced with the accent on the wrong syllable by scorers of native speakers of Arabic, invariably contained a long vowel in the syllable accented by them, some work was undertaken to study word-accent in Arabic. The study revealed certain fascinating facts about word-accent in Arabic. This paper presents some of these facts and the rules governing this important suprasegmental feature of Arabic.

Syllable-structures in Arabic

An earlier study done in collaboration with an Adeni native speaker of Arabic (Salim, 1982) revealed that modern (colloquial as well as classical) Arabic has just three syllable-structures, barring very few examples of syllables of the structure V (just the nucleus without any releasing or arresting consonants and the nucleus is invariably the long front open vowel /aː/ as in < آداب > / aːˈd̪aːb/ ' arts ').

The three commonly occurring syllable-structures, the study revealed, are CV (as in < لا > /laː/ 'no'), CVC (as in < سوق > /suːq/ 'market') and CVCC (as in < بنت > /bint̪/ 'girl'). The nucleus or the V element in a syllable can be either a short vowel or a long vowel/diphthong. The three basic syllable-structures of Arabic can be enlarged into six. Representing a short vowel by the symbol V and a long vowel/diphthong by the symbol V: , the possible syllable-structures in Arabic are :

(i) CV , (ii) CVː , (iii) CVC, (iv) CVːC , (v) CVCC and (vi) CVːCC. Of these,

syllables of the structure CVːCC don't exist in the language.

Methodology employed

To study word-accent in Arabic, it was found convenient to categorise syllables

into *light* and *heavy*, following ancient Sanskritic tradition. In the ancient Sanskrit

treatise entitled *Taitreeeya Praatishaakhyaa* (/ʈaiʈɾiːja pɾɑːʈiʃɑːkʰjɑː/),

a phonetic treatise on the *Yajur Veda* (/jɑdʒuɾ ʋeːdɑː/) , the terms *laghu*

(/lɑgɦu/ *light*) and *guru* (/guɾu/ *heavy*) have been used with reference to the

weight of the syllables. A light syllable is one with a short vowel or a short vowel

followed by a single consonant. A heavy syllable is one with a long vowel or a

diphthong, or a short vowel followed by a consonant cluster. Thus a syllable of the

structure CV or CVC is light and a syllable of the structure CVː and CVCC is heavy.

In terms of quantity, a light syllable is said to constitute one *maatra* (*mora* in the

terminology used by Trubetskoy, 1939).

To categorise Arabic syllables for studying the word-accentual patterns in the

language, a further syllable-category was added – *superheavy*. Superheavy syllables

are those made up of a long vowel or a diphthong, followed by an arresting

consonant.Thus, < نبــي > (/na-bi/ 'prophet') and <قــوي> (/qa-wi/ strong') are

made up of two light syllables each; the monosyllables < من > (/min/ who' and <كم>

(/kam/ 'how much, how many') are also light syllables; the first syllables of < واحد >

(/waː-ħid̪/ 'one' and < ثاني> (/θaː-ni/ 'another')and the monosyllables <درس >

(/d̪ars/ 'lesson') and ‹نفس› (/nafs/ 'soul')are heavy; the monosyllables ‹باب›

/ba:b/'door') and ‹نور› (/nu:r/ 'light')and the second syllables of the words

‹رحمــان› (/raħ-ma:n/ 'merciful')and ‹مجنــون› (/madʒ-nu:n/ 'madman') are

superheavy.

Scores of Arabic words that occur in the spontaneous day-to-day speech of native speakers of Arabic were chosen and native speakers of Yemeni and Omani Arabic were asked to pronounce them. The words were listened to very carefully and transcribed, using IPA symbols. In the transcriptions, word-accent was marked. The transcribed versions of the words were then analysed and divided into various categories, depending upon the structures of the syllables the words were made up of. The analysis showed that word-accent in Arabic does depend upon syllable-structure.

Findings

A number of Arabic words made up of more than one syllable each, were listed and the syllables in each of these words were examined in terms of their structure and, therefore, in terms of their being light, heavy or superheavy. The syllable in each word that receives the accent was examined and the correlation between word-accent and syllable-structure was analysed. In the examples cited here and elsewhere in this paper, word-accent has been marked on the basis of the pronunciation of the words by the forty informants. In some of these examples, the V element is one of the syllabic consonants /m/, /n/, /l/ or /r/.

Type 1: Disyllabic words made up of two light syllables of the structure CV-CV

نبي	/ˈna-bi/	'prophet'

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قوي	/ˈqa-wi/	'strong'
نقي	/ˈna-qi/	'pure'
سوي	/ˈsa-wi/	'normal'
ندى	/ˈna-d̪a/	'dew drops'
لحم	/ˈla-ħm/	'meat'
نجم	/ˈna-dʒm/	'star'
جفن	/ˈdʒi-fn/	'eyelid'
إبن	/ˈʔi-bn/	'son'
أكل	/ˈʔa-kl/	'food'
سهل	/ˈsa-hl/	'easy'
مهر	/ˈma-hr/	'dowry'
فجر	/ˈfa-dʒr/	'dawn'

Rule 1: Disyllabic words made up of two light syllables take the accent
on the first syllable.

Type 2: Disyllabic words made up of two light syllables of the structure CVC-CVC:

ستة	/ˈsiṭ-tah/	'six'
جدة	/ˈdʒiḍ-ḍah/	'Jeddah city'
دفتر	/ˈḍaf-ṭar/	'note-book'
فلفل	/ˈfil-fil/	'pepper'
مكتب	/ˈmak-ṭab/	'office'
بلبل	/ˈbulbul/	'nightingale'
فندق	/ˈfun-ḍuq/	'hotel'
سكر	/ˈsuk-kar/	'sugar'
ازرق	/ˈʔaz-raq/	'blue'
منزل	/ˈman-zil/	'house'
مشهور	/ˈmuʃ-huːr/	'well-known'

> Rule 2: Rule 1 framed earlier applies to this set of words.

Type 3: Disyllabic words made up of two light syllables of the structure CV – CVC

| مفك | /ˈma-fak/ | 'tin-opener' |

قلم   /'qa-lam/   'pen'

قمر   /'qa-mar/   'moon'

مرض   /'ma-raḍ/   'illness'

ولد   /'wa-laḍ/   'boy'

> Rule 3: Rule 1 formulated earlier applies to this set of words
> as well.

On the basis of the three types of words analysed so far (disyllabic words of the structures CV-CV, CVC-CVC, sand CV-CVC) we can conclude that Arabic polysyllabic words made up of two syllables of equal weight take the accent on the penultimate syllable.

A few more words made up of syllables of equal weight were examined next.

Type 4: Trisyllabic words made up of three light syllables of the structure CVC-CVC-CVC

مستقبل   /mus-'ṭaq-bal/   'future'

مستنقع   /mus-'ṭan-qaʕ/   'a pool of dirty water'

يستغفر   /jas-'ṭaʁ-fir   'asks God for forgiveness'

يستعبد   /jas-'ṭaʕ-biḍ/   ' to enslave'

يستعمل   /jas-'ṭaʕ-mil/   'to use'

مستبعد   /mus-'ṭab-ʕaḍ/   'excluded'

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Rule 4: Trisyllabic words made up of three light syllables take the accent on the second syllable.

A single rule can now be formulated, combining the rules framed so far. (Rule 5 given below).

Rule 5: Words made up of syllables of equal weight take the accent on the penultimate syllable.

Words made up of syllables of unequal weight were taken up for analysis next.

Type 5: Disyllabic words made up of one heavy and one light syllable of the structures CVː-CVC:

بارد   /'baː-riḍ/   'cold'

واحد   /'waː-ħiḍ/   'one'

سارق   /'saː-riq/   'thief'

شاعر   /'ʃaː-ʕir/   'poet'

ثابت   /'θaː-biṭ/   'proper noun'

Rule 6: Disyllabic words made up of syllables of unequal weight take the accent on the heavier of the two syllables.

Type 6: Disyllabic words made up of one heavy and one superheavy syllable of the structures CVː- CVːC

ساعات   /saː-'ʕaːṭ/   'clocks

قاموس   /qaː-ˈmuːs/   'dictionary'

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قانون   /qaː-ˈnuːn/   'law'

ثيران   /t̪iː-ˈraːn/   'bulls'

جاموس   /dʒaː-ˈmuːs/   'buffalo'

> Rule 7: Rule 6 formulated earlier applies to this set of words.

Type 7: Disyllabic words made up of one light and one superheavy syllable, of the structures CV - CVːC

كريم   /ka-ˈriːm/   'generous'

رحيم   /ra-ˈħiːm/   'merciful'

شباب   /ʃa-ˈbaːb/   'young people'

سدود   /su-ˈd̪uːd̪/   'dams'

تمام   /t̪a-ˈmaːm/   'fine'

بريد   /ba-ˈriːd̪/   'post'

حبيب   /ha-ˈbiːb/   'lover'

لبيب   /la-ˈbiːb/   'intelligent'

> Rule 8: Rule 6 formulated earlier applies to this set of words as well.

Type 8: Trisyllabic words made up of two light syllables and one superheavy syllable, of the structures CV-CV-CV:C

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بقرات / ba-qa-ˈraːt̬ 'cows'

بركات /ba-ra-ˈkaːt̬/ 'blessings'

ورقات /wa-ra-ˈqaːt̬/ 'leaves'

Rule 9:	Trisyllabic words made up of syllables of unequal weight take the accent on the heaviest of the three syllables.

Words of different syllable-structures:

ملابس /ma-ˈlaː-bis/ 'clothes'

إمتحان /ʔim- t̬i-ˈħaːn 'examination'

جمهور /dʒum-ˈhuːr/ 'audience'

منازل /ma-ˈnaː-zil/ 'houses'

In all these words, the heavier of the two, or the heaviest of the three, syllables takes the accent.

A general rule can be framed regarding word-accent in Arabic which will sum up all the rules framed so far.

> General Rule: In Arabic words made up of more than one syllable, the heavier or the heaviest syllable takes the accent. If the word is made up of syllables of equal weight, the penultimate syllable takes the accent.

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Conclusion

Word-accent in Arabic is predictable , the accentuation being dependent on syllable-structure. This fact about Arabic will help teachers of English in the Arab world in teaching English speech to native speakers of Arabic. The mistakes Arabic speakers of English are likely to make when they pronounce polysyllabic words in English can be predicted and remedial measures taken. One other point is that in Modern Standard Arabic and in the different colloquial varieties, word-accent is non-phonemic. In English there are pairs of words like ˈ*import* (noun) and *im*ˈ*port* (verb) which are distinguished from each other by stress alone. There are no such examples in Arabic . Contrasting the students' native language with the foreign language they are learning is always helpful to a teacher of the foreign language.

Acknowledgement

Appendix

Key to the Phonetic symbols used in the paper

All the phonetic symbols used in this paper to transcribe Arabic and English words are those found in the alphabet of the International Phonetic Association. Given below is a list of symbols and their three-term descriptions

S.No.	Phonetic symbol	Corresponding letter of the Arabic alphabet	Three-term description of the sound
1	p	……	Voiceless bilabial plosive
2	b	ب	Voiced bilabial plosive
3	t̪	ت	Voiceless denti-alveolar plosive
4	t̪	ط	Voiceless velarised denti-alveolar plosive
5	d̪	د	Voiced denti-alveolar plosive
6	d̪	ض	Voiced velarised denti-alveolar plosive
7	t	……	Voiceless alveolar plosive
8	d	……	Voiced alveolar plosive
9	k	ك	Voiceless velar plosive
10	q	ق	Voiceless uvular plosive
11	ʔ	ء	Glottal plosive/glottal stop
12	dʒ	ج	Voiced palato-alveolar affricate
13	m	م	Voiced bilabial nasal
14	n	ن	Voiced alveolar nasal
15	f	ف	Voiceless labio-dental fricative
16	θ	ث	Voiceless inter-dental fricative
17	ð	ذ	Voiced inter-dental fricative

18	ð	ظ	Voiced velsarised inter-dental fricative
19	s	س	Voiceless alveolar fricative
20	sˤ	ص	Voiceless velarised alveolar fricative
21	z	ز	Voiced alveolar fricative
22	ʃ	ش	Voiceless palato-alveolar fricative
23	χ	خ	Voiceless uvular fricative
24	ʁ	غ	Voiced uvular fricative
25	ħ	ح	Voiceless pharyngeal fricative
26	h	ه	Voiceless glottal fricative
27	r	ر	Voiced alveolar tap/trill
28	l	ل	Voiced alveolar lateral
29	ʕ	ع	Voiced pharyngeal approximant
30	j	ي	Voiced palatal semi-vowel
31	w	و	Voiced labio-velar semi-vowel
32	iː		Front close unrounded (long) vowel
33	ɪ		Front (centralized) unrounded vowel between close and half-close
34	i		Front close unrounded(short) vowel
35	eː		Front half-close unrounded (long) vowel
36	e		Front unrounded vowel between half-close and half-open
37	æ		Front unrounded vowel just above open
38	aː		Front open unrounded (long) vowel
39	a		Front open unrounded (short) vowel
40	ɑː		Back open unrounded (long) vowel
41	oː		Back half-close rounded (long) vowel
42	o		Back half-close rounded (short) vowel
43	uː		Back close rounded (long) vowel
44	u		Back close rounded (short) vowel

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