

A Brief Description of Consonants in Modern Standard Arabic

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Abstract The present study deals with “A brief description of consonants in Modern Standard Arabic”. This study tries to give some information about the production of Arabic sounds, the classification and description of consonants in Standard Arabic, then the definition of the word consonant. In the present study we also investigate the place of articulation in Arabic consonants we describe sounds according to: bilabial, labio-dental, alveolar, palatal, velar, uvular, and glottal. Then the manner of articulation, the characteristics such as phonation, nasal, curved, and trill. The aim of this study is to investigate consonant in MSA taking into consideration that all 28 consonants of Arabic alphabets. As a language Arabic is one of the most important languages in the world, because it is the language of Quran. Each language has its own phonetic system; furthermore to the enlightenment of MSA sound system; giving a comparison between Arabic and English sound considered as similarities and differences between the two systems such as /p/ and /b/ e.g. /p/- pit /pɪt/ in English but is not spoken in Arabic. Although /b/ sound is similar in both the languages e.g., / b /- bit/bit/ in English, غلب / balɪb/ “Adult” in Arabic. This study attempts to observe these words and statistical work for each other and their representation in the data included with the analysis of these results.

Keywords MSA, Arabic, Consonants, Analysis, Speech Sounds, Description

1. Introduction

Arabic is considered to be a worldwide language, with 27 sub-languages. These varieties are spoken all over the Arab world. Standard Arabic is widely studied and used throughout the Islamic world. Standard Arabic has 36 phonemes, of which six are vowels, two diphthongs and 28 are consonants. Whether in hand writing, Arabic script only reveals a cursive style and is written from right to left. The Arabic language has a standard pronunciation; this study is specifically concerned with the analysis of consonants in

Modern Standard Arabic. This study starts from an elucidation of the phonetic bases of sounds classification. At this point shows the first limit of the study that is basically phonetic rather than phonological description of sounds. This attempt of classification is followed by lists of the consonant sounds in Standard Arabic with a key word for each consonant. The criteria of description are place and manner of articulation and voicing. The attempt of description has been made to lead to the drawing of some fundamental conclusion at the end of the paper.

2. Consonants

Consonant is a speech sound that represents a speech sound produced by a partial or complete obstruction of the air stream by a constriction of the speech organs and a vowel is a voiced sound in the pronunciation of which the air passes through the mouth in a continuous stream, there being no obstruction (Ward, 1971: 65). A consonant, on the other hand are classified according to the organs articulating them and according to the manner of their articulation is also possible to combine the movement of the vocal cords with the articulation of any consonant, i.e., consonants can be either voiced or voiceless. As stated above, Arabic has 28 consonants (including two semi-vowels) and six vowels (three short vowels and three long vowels); they appear as different allophones, depending on the preceding consonant. Short vowels are not usually represented in written language, although they may be indicated with diacritics. Most of these have equivalent consonants in English and other languages, although a few do not.

List of Phonetic Symbols as transliterated in this article:

- 26 consonants: b t d k ʒ q l m n f θ ð s ʃ z x ɣ h r ʕ t d̥ ð ʔ
- 2 semi-vowels: w j
- 6 vowels: i ī ə a u ū

Note that Arabic is particularly rich in uvular, pharyngeal, and pharyngealized ("emphatic") sounds. The emphatic sounds are generally considered to be /ʕ/ص, /d̥/ض, /t̥/ط and /ʒ/ظ. Note that Arabic is particularly rich in uvular, pharyngeal, and pharyngeal zed ("emphatic") sounds.

Table 1. A List of Phonetic Symbols of the Arabic consonants

S.No.	Phonetic symbol	Arabic letter	Three-term label	Example
1	b	ب	Voiced bilabial plosive	ħob(love)
2	t	ت	Voiceless denti-alveolar plosive	tətablɪq(match)
3	d	د	Voiced denti-alveolar plosive	daxlɪ(inner)
4	k	ك	Voiceless velar plosive	kita:b(book)
5	ʒ	ج	Voiced palate-alveolar affricate	ʒuʒ(hunger)
6	q	ق	Voiceless uvular plosive	qəmər(moon)
7	l	ل	Voiced alveolar lateral	la: (no)
8	m	م	Voiced bilabial nasal	mətər (rain)
9	n	ن	Voiced alveolar nasal	nu:r (light)
10	f	ف	Voiceless labio-dental fricative	fən (art)
11	θ	ث	Voiceless inter-dental fricative	θəlaθəh (three)
12	ð	ذ	Voiced inter-dental fricative	ðəki(intelligent)
13	s	س	Voiceless alveolar fricative	su:q (market)
14	ʃ	ص	Voiceless velarised alveolar fricative	ʃəħħəh(health)
15	z	ز	Voiced alveolar fricative	ruz (rice)
16	ʃ	ش	Voiceless palate-alveolar fricative	ʃəms (sun)
17	x	خ	Semi-Voiced uvular fricative	xəsərəh (lose)
18	ɣ	غ	Voiced uvular fricative	ɣuba:r (dust)
19	ħ	ح	Voiceless pharyngeal fricative	ħima:r (donkey)
20	h	ه	Voiceless glottal fricative	hawa:ʔ (air)
21	r	ر	Voiced alveolar trill	rəb (lord)
22	ç	ع	Voiced pharyngeal frictionless continuant	çəql (mind)
23	j	ي	Voiced palatal semi-vowel	jəd(hand)
24	w	و	Voiced labio-velar semi-vowel	wahid (one)
25	t̪	ط	Voiceless velarised denti alveolar plosive	t̪i:n (soil)
26	d̪	ض	Voiced velarised denti-alveolar plosive	d̪əçi:f (weak)
27	ð̪	ظ	Voiced velarised alveolar fricative	ð̪ərf (envelope)
28	ʔ	أ	Voiceless epiglottal plosive	faʔr (rat)

Table 2. A List of Phonetic Symbols of the Arabic Vowels

S.No.	Phonetic symbol	Label	Example
1	ɪ	Front unrounded vowel between close and half-close (short)	çɪlm(know)
2	i	Front close unrounded vowel (long)	din (religion)
3	ə	Front open unrounded vowel (short)	rəqʃ(dance)
4	a	Front open unrounded vowel (long)	bab (door)
5	ʊ	Back rounded vowel between close and half close (short)	ɪʊfl(baby)
6	u	Back close rounded vowel (long)	buməh(owl)

2.1. Place of Articulation

There are some common consonants in both English and Arabic. These consonants are (d, b, t, j, f, z, ʃ, h, l, m, n, w, r and y). There are eighteen consonants common between English and Arabic. However, these common consonants are not always identical; there are some differences. /t/ in English is alveolar, but in Arabic it is dental. Here is a difference in the place of articulation; /d/ in English is alveolar, but dental in Arabic. /h/ occurs in initial and medial positions in English, but not finally, e.g., horse, behalf. In Arabic, /h/ occurs is finally, e.g. /dələləh/ ‘Denote’.

Place of articulation is defined as both the active and passive articulators. The place of articulation of a consonant specifies where in the vocal tract the narrowing occurs from front to back; there are several basic active articulators:

Bilabial: articulated with the upper and lower lips approach or touch each other. English /p/, /b/, and /m/ are bilabial stops but in Arabic /p/ sound is not spoken, For example: /p/- pit /pɪt/ in English /b/- bit /bɪt/ in English, بالغ /balɪv/ “Adult” in Arabic /m/ - meet /mit/ in English, مدرسة /mədrɪsəh/ “School” in Arabic.

Labiodentals: articulated with the lower lip touches the upper teeth. English /f/ and /v/ are bilabial fricatives, For example: / f /-fan in English, فنة /fɪʔh/ “class” in Arabic /v/-van in English but it is not in Arabic:

Dental: articulated with the tip or blade of the tongue touches the upper teeth. English /θ/ and /ð/ are dental fricatives. There are actually a couple of different ways of forming these sounds; the tip of the tongue can approach the back of the upper teeth, but not press against them so hard that the airflow is completely blocked. The blade of the tongue can touch the bottom of the upper teeth, with the tongue tip protruding between the teeth -- still leaving enough space for a turbulent airstream to escape. This kind of /θ/ and /ð/ is often called inter-dental in Arabic. Examples: مثل /mɪl/ “Sam”, عادي /mɔdyə/ “Radio”.

Alveolar: articulated with the tip or blade of the tongue touches the alveolar ridge, the ridge immediately behind the upper teeth. The English stops /t/, /d/, and /n/ are formed by completely blocking the airflow at this place of articulation. In Arabic /t/, /d/ are called denti-alveolar e.g., /t/-اتصال /ɪttɪʃal/ “call”, /d/-تقدم /təqəddɒm/ “advance”. /s/ and /z/ are comes under in fricatives /s/ سرير /səriɾ/ “bed”, /z/ موزة /mauzəh/ “banana”, /n/ (alveolar nasal) /n/ ناعم /naʕɪm/ “Soft” /r/ (alveolar trill) /r/ رمل /rəml/ “Sand” and /l/ (alveolar lateral) /l/ لا /la:/ “no”.

palato-alveolar: /ʃ/ ش and /ʒ/ ج articulated with the blade of the tongue behind the alveolar ridge and the body of the tongue raised toward the palate.

Velarised alveolar: /ʒ/ ص articulated with the blade of the tongue approaches closely the alveolar ridge, it approaches the upper front teeth in Arabic (Ibn-Jinni , 1944 : 52-53). Notice, consequently, should be drawn to this point since it marks the speaker as a non-native one. Example in Arabic is /rəqʃ/ رقص “Dance”.

Velarised denti-alveolar: /t/ ط, /d/ ظ and /d/ ض these sounds

are pronounced in very different manner, non-native speakers are not pronounced perfectly and clearly.

Palatal: articulated with the body of the tongue approaches or touches the hard palate. English /j/ is a palatal approximant -- the tongue body approaches the hard palate, but closely enough to create turbulence in the airstream. Example: /j/ ي /ħəyah/ حياة “Life”.

Labio-velar: articulated with both the lips and the soft palate example: /w/ و /swəd/ دوس “Black”.

Velar: articulated with the body of the tongue touches the soft palate, or velum. In English /k/, /g/, and /ŋ/ are stops. Examples for velar consonants /k /- كتاب /kɪtab/ “book”, /ŋ /-not in Arabic.

Uvular: articulated with the back of the tongue and uvula e.g., /q/ قطة /qətəh/ “cat”, /v/ غبي /vəbi/ “idiot” and /x/ in أخ /ʔx/ “Brother”.

Pharyngeal: /ħ/ ح and /ʕ/ ع articulated with the back of the tongue and pharynx, for example: /ħ/ محرك /mɒħərɪk/ “Engine” and /ʕ/ عزة /ʕzəb/ “Goat”.

Glottal: The glottis is the opening between the vocal folds. In /h/ sound, this opening is narrow enough to create some turbulence in the airstream flowing past the vocal folds. For this reason, /h/ is often classified as a glottal fricative. Example for glottal /h/ هموزة /mauzəh/ “banana”.

2.2. Manners of Articulation

Stops: A stop consonant completely cuts off the airflow through the mouth. In the consonants /t/, /d/, and /n/, /m/ the tip of the tongue is contact with the alveolar ridge and cuts off the airflow at that point. In /t/ and /d/, this means that there is no airflow at all for the duration of the stop. In /n/, there is no airflow through the mouth, but there is still airflow through the nose. We can distinguish into two terms:

- Nasal stops**, like /n/ and /m/, which involve airflow through the nose, and
- Oral stops**, like /b/, /t/, /d/, /k/, /q/, /t/, /d/ and /ʔ/ which do not.

Nasal stops are often simply called *nasals*. There are three nasal consonants in English, such as, /m, n and ŋ /, whereas in Arabic we have only two nasals; /m/ (bilabial) and /n/ (alveolar) e.g., /məlɪk/ “king”, /naʕɪm/ “soft”.

Table 3. Shows nasal stops in Arabic are given at three word positions: initial, medial, final

S.No.	Nasals Stops	Phonetic symbols of Arabi	Examples
1	bilabial	m / م	/məɪk/ King
2	alveolar	n / ن	/naʕɪm/ Soft

Oral stops are also called plosives. Oral stops can be either voiced or voiceless. Nasal stops are almost always voiced. (It is physically possible to produce a voiceless nasal stop, but English, like most languages, does not use such sounds.) Examples for oral and nasal stops in Arabic, in the tables given below:

Table 4. Shows oral stops in Arabic

S.No.	Oral Stops	Phonetic symbols of Arabic	Examples
1	Bilabial	b / ب	<i>ba:b</i> (door)
2	Alveolar	t / ت	<i>təçlim</i> (Education)
		d / د	<i>dəlaləh</i> (Denote)
		ɟ / ط	<i>tufl</i> (Baby)
		ɟ / ض	<i>dəxm</i> (Huge)
3	Velar	k / ك	<i>killā</i> (Both)
4	Uvular	q / ق	<i>qələm</i> (pen)
5	Glottal	ʔ / أ	<i>ʔx</i> (Brother)

Table 5. Shows Stops in the use of letters like (b, t, d, and k) are given at three word positions: initial, medial, final

Stops	Initial	Medial	Final
b / ب Voiced, bilabial, plosive	بالغ <i>balɪy</i>	قبض <i>qəbəd</i>	كتاب <i>kɪtɑ:b</i>
t / ت Voiceless, denti-alveolar, plosive	تحرير <i>təħrɪr</i>	مفتاح <i>mufɪtɑħ</i>	وقت <i>wəqt</i>
d / د Voiced denti-alveolar plosive	دم <i>dəm</i>	حدث <i>dɪθ</i>	أسود <i>ʔswəd</i>
k / ك Voiceless velar plosive	كلب <i>kəlb</i>	فكر <i>fɪkrɑħ</i>	ترك <i>tərək</i>

Table 6. Shows stops in the use of letters like (q, t, d and ʔ) are given at three word positions: initial, medial, final

Stops	Initial	Medial	Final
q / ق Voiceless uvular plosive	قمر <i>qəmər</i>	رقم <i>rəqm</i>	تطبيق <i>tətəbɪq</i>
ɟ / ط Voiceless velarised denti-alveolar plosive	طازج <i>tazəz</i>	لطيف <i>lətɪf</i>	فقط <i>fəqət</i>
d / ض Voiced velarised denti-alveolar plosive	ضخم <i>dəxm</i>	خضار <i>xudɑr</i>	أرض <i>ʔrəd</i>
ʔ / أ Voiceless epiglottal plosive	أذن <i>ʔðən</i>	متأخر <i>mətəħlɪr</i>	ماء <i>mɑʔ</i>

Fricatives: In a *Fricative* consonant, the articulators involved in the constriction approach get close enough to each other to create a turbulent airstream. The fricatives of English are /f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/, /ʒ/ and /h/. While Arabic fricatives are /f/, /θ/, /ð/, /s/, /ʃ/, /z/, /ʃ/, /x/, /ç/, /ħ/ and /h/. Examples are given below in the table:

Table 7. Shows fricatives in Arabic words are given at three word positions: initial, medial, final

Fricatives	Initial	Medial	Final
f	فريد <i>fərid</i>	دافئ <i>dafə</i>	لطيف <i>lətɪf</i>
θ	-	مثل <i>mɪθl</i>	حادث <i>ħadɪθ</i>
ð	ضروري <i>dəruri</i>	موضوع <i>Mauduç</i>	قبض <i>qəbəd</i>
s	سكين <i>sikkin</i>	أسود <i>ʔswəd</i>	لمس <i>ləms</i>
ð	ظرف <i>ðərf</i>	نظر <i>nəðr</i>	حظ <i>ħəð</i>
ʃ	صفر <i>ʃəfər</i>	اصفر <i>ʔʃfər</i>	اصيص <i>ʔʃiʃ</i>
z	زبدة <i>zəbdəh</i>	وزن <i>wəzən</i>	-
ʃ	شارب <i>ʃarɪb</i>	مشوي <i>məʃwi</i>	نقاش <i>nɪqɑʃ</i>
x	خطر <i>xəɬər</i>	فخر <i>fəxɪr</i>	أخ <i>əx</i>
ç	غبي <i>çəbi</i>	صياغة <i>ʃɪyɑçəh</i>	بالغ <i>balɪy</i>
ħ	حادث <i>ħadɪθ</i>	تحرير <i>təħrɪr</i>	مفتاح <i>mufɪtɑħ</i>
h	حذف <i>ħəðəf</i>	لاحظ <i>lahəz</i>	فكر <i>fɪkrɑħ</i>

Approximants are speech sound, such as a glide or liquid, articulated by narrowing but not blocking the vocal tract, as by placing an articulator, such as the tongue, close to another part of the vocal tract. The articulators are still closer to each other than when the vocal tract is in its neutral position, but they are not even close enough to cause the air passing between them to become turbulent. The approximants of English are /w/, /j/, /r/, and /l/. While; the approximants of Arabic are /w/ and /j/. The examples in the table below:

Table 8. Shows approximants in Arabic words are given at three word positions: initial, medial, final

Approximants	Initial	Medial	Final
j	jəd يد	sərir سرير	məfwi مشوي
w	wəgt وقت	təwil طويل	--

Affricates are consonants that begin as stops but release as a fricatives or a complex speech sound consisting of a stop and a fricative articulated at the same point In English, there are two affricates such as /tʃ/ and /dʒ/. Whereas in Arabic there is only one affricate ج/ʒ/ is given at three word positions: initial, medial, final: جاء/ʒaʔ/ "Come", اجازة/ɪʒazəh/ "vacation", طازج/tazəʒ/ "fresh".

Laterals are produced by breath passing along one or both sides of the tongue. The consonant /l/ in /lif/ leaf, articulated with tongue tip is touches alveolar ridge (or probably upper teeth), but this doesn't make a stop. Air is still flowing during /l/ because the side of the tongue has dropped down and left an opening. Examples of lateral ل /l/ and Trill ر /r/ sound in Arabic, which are given blow at word position: initial, medial and final.

Table 9. Shows lateral /l/ and trill /r/ in Arabic words

Lateral and Trill	Initial	Medial	Final
ل /l/	la: لا	kəlb كلب	ittisal اتصال
ر /r/	rəsmi رسمي	tərig طريق	xətər خطر

3. Conclusions and Findings

In the present paper entitled "A brief description of consonants in Modern Standard Arabic", consonants play the great role in Arabic language and have different pronunciations. Arabic vocabulary is very large and uses a logical but difficult grammatical system, particularly in Literary Arabic. English is simpler than that of Arabic language. Achieving a correct pronunciation is not easy and without accent speaking is very difficult. We discussed above a brief description of all Arabic consonants, examples, and where there is little similarities and differences Arabic between Arabic consonants and those of the English language, an explanation. Arabic consents only cursive style of writing, with each letter having a slightly distinct form to word positions: initial, medial and final, and employs three helping vowels for ease of pronunciation.

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