

The Phonemic System of a Lebanese

Arabic Dialect

by

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Abstract of Master's Thesis

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The Phonemic System of a Lebanese Arabic Dialect

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The thesis is a descriptive analysis of the segmental phonemes of a social dialect of Lebanese Arabic. It is defined as the speech of the educated urban community whose members are almost exclusively Christians and who have received their formal education in French.

The thesis begins with a statement of the questionnaires and field work techniques used in collecting the corpus for analysis, including relevant information on the informants - all natives of Beirut. The results of the analysis are presented in the form of a structural sketch detailing the character and distribution of the phonemes and their allophones.

In conclusion, the thesis states that, in spite of the bi-lingual nature of the informants, there is no indication of marked influence from French in the phonology of the Arabic spoken by the educated Christian community of Beirut.

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1.0 Introduction

1.01 Statement of purpose

The purpose of this paper is a description of the phonemic system of a Lebanese Arabic dialect spoken in Beirut.

1.1 The dialects of Beirut

Different dialects are spoken in the various districts of Beirut; dialectal differences, in the main, correlate with religious differences, with one major type spoken by Christians, the other type by Muslims. Both dialectal and religious differences also depend on the geographical origin of the speaker, with the Muslims coming mostly from the south of the country (Sidon, Tyr) or the north (Tripoli), and the Christians from villages in the Lebanese mountains, where each village has its own dialect. In Beirut, Christians and Muslims usually occupy separate districts, although one does find some large Christian families in Muslim neighborhoods, usually for political reasons: to keep a close relationship with potential voters for a member of the family involved in politics.

Education is a strong leveling factor among the Christian mountain dialects in Beirut.

1.11 French Influence

The influence of French on this Lebanese dialect of Arabic is restricted to the postulation of three phonemes of a coexistent phonemic system which accounts for the pronunciation of loan words which have not been totally assimilated.

Its influence on the Muslim dialect group is similar but less

pervasive in that there are fewer loan words and those which exist are usually assimilated into the indigenous phonemic system.

1.12 Classical Arabic Influence

The influence of Classical Arabic on the Christian dialects of Lebanese Arabic is restricted to the postulation of three phonemes of a coexistent phonemic system which accounts for the pronunciation of loan words which are themselves restricted to either references or quotations from the Coran and certain grammatical categories namely

muðakkar 'masculine'

muθanna 'dual'

The influence of Classical Arabic on Muslim Arabic dialects, on the other hand, is stronger in that their religion is transmitted via Classical Arabic. In contrast to the sporadic and infrequent references to the Coran on the part of the Christians, the Muslims make continuous and frequent references to the Coran in all phases of their daily life.

1.13 Influence of Education

In the past, French was the language of education. This had two results. First, it created bilingualism among the educated people and secondly it made French the prestige language of Beirut. Classical Arabic, on the other hand, was taught only as a vehicle for Literature and philosophy.

In the last decade the official policy has been to enlarge the role of Classical Arabic in the educational system. The specific manifestation of this policy is the founding of the

Lebanese University whose course of instruction is conducted completely in Classical Arabic and the strengthening of the Classical Arabic component within the French schools. The result of this policy has been the weakening of the status of French as a prestige language and the concomitant rise in interest in the Arabic language as a vehicle for communication and expression in all areas of life.

1.2 Collection of the data

1.21 Data

The data which constitute the corpus for this study were collected by means of tape recordings taken in Beirut in 1970.

The data were elicited in Lebanese Arabic and transcribed in North American phonetic alphabet.

The data consist of word lists, texts and conversations.

1.22 Informants

The informants were all natives of Beirut. They range in age from 18 to 35. All are educated bilinguals, speaking both Arabic and French. All can read and write Classical Arabic. All were educated in French schools and their occupations are representative of those engaged in by those known in Lebanon as Franco-Lebanese.

Informants	Age	Occupation
Wal. T.	20	University student
Wad. T.	18	High School student
E. S.	19	University student
V. M.	21	University student
G. M.	32	Bank Manager
S. C.	33	Engineer
A. C.	24	Primary school teacher
		(all subjects)
E. F.	35	Customs employee
J. O.	30	Travel Agent
M. M.	31	Housewife

SEGMENTAL PHONEMES

Manner/Place	Bilabial	Labio Dental	Dental	Alveolar	Palatal	Velar	Uvular	Pharyngeal	Glottal
s			/t/			/k/	(/q/)		/ʔ/
t	(/p/)		/d/			(/g/)			
o	/b/								
p									
s									
f		/f/	(/θ/)	/s/	/š/		/x/	/ħ/	/h/
r		(/v/)	(/ð/)	/z/	/ž/		/ɣ/	/ʕ/	
i									
c									
s									
n				/n/					
a	/m/								
s									
a									
l									
laterals				/l/					
trills				/r/					
semivowels	/w/				/y/				

The phonemes in parenthesis occur only in the coexistent phonemic system which accounts for the pronunciation of unassimilated loan words.

Long Component

Pharyngealization marked in transcription as /šataf/, 'he washed the floor'

2. Description of PhonemesSTOPS

<u>Pho- nemes</u>	<u>Allo- phones</u>	<u>Description and Distribution</u>	<u>Examples</u>	<u>Translations</u>
/b/	[b ⁿ]	Nasally released voiced bilabial stop /___C _{nasal}	[ʔí ⁿ b ⁿ ne]	'my son'
	[b ^l]	Laterally released voiced bilabial stop /___l	[ʔá ^l b ^l]	'before'
	[b̥]	Lax voiceless bilabial stop /___#, /___C̥	[kálb̥] [mab̥hú:h]	'dog' 'coarse'
	[b ^w]	Labialized voiced bilabial stop /___V _{rounded}	[ʔab ^w ú:]	'his father'
	[b]	Voiced bilabial stop elsewhere	[bé:t]	'house'
	[b ^l]	Laterally released pharyngealized voiced bilabial stop /___l	[b ^l lá:t]	'ceramic'
	[b̥]	Lax pharyngealized voice- less bilabial stop /___C̥	[mab̥s ^w ú:t]	'happy'
	[b ^w]	Pharyngealized labialized voiced bilabial stop /___V _{rounded}	[ʔb ^w ú:ra]	'cemeteries'

[b]	Pharyngealized voiced bilabial stop elsewhere in pharyngealized syllable	[bá:ba]	'pope, father'
/t/	[t̥ ⁻] Unreleased voiceless apico dental stop /___r	[mít̥ ⁻ r]	'meter'
[t]	Voiceless lamino dental stop /___C _{fric} , C _{fric} ___	[matšáhll]	'don't rush'
		[šáxt̥r]	'doodie!'
[t̥ ⁿ]	Nasally released voice- less apico dental stop /___n	[t̥ ⁿ né:n]	'two'
[t̥ ^l]	Laterally released voiceless apico dental stop /___l	[ʔát̥ ^l l]	'fight'
[t̥ _v]	Lax voiceless apico dental stop /k___	[kté:b]	'book'
[t̥ ^w]	Labialized lax voiceless apico dental stop /ʔ___V _{rounded}	[ʔt̥ ^w ó:l]	'kill!'
[t̥ ^w]	Labialized voiceless apico dental stop /___V _{rounded}	[t̥ ^w ú:m]	'garlic'

[t̥]	Voiceless apico dental stop elsewhere	[t̥i:n]	'fig'
[t̥̥]	Unreleased pharyngealized voiceless apico dental /___r	[ʔat̥̥r]	'syrup'
[t̥]	Pharyngealized lamino dental stop /___C _{fric} C _{fric} ___	[matXabbIr]	'don't tell'
[t̥ ^w]	Labialized pharyngealized lamino dental stop /C _{fric} ___V _{rounded}	[Xt̥ ^w ó:b]	'get engaged!'
[t̥ ¹]	Pharyngealized laterally released voiceless apico dental stop /___1	[t̥ ¹ lá:ɕ]	'get up!'
[t̥ ^w]	Pharyngealized lax voice- less apico dental stop /ʔ___	[ʔt̥ ^w ó:r]	'put in drop by drop'
[t̥ ^w]	Labialized pharyngealized voiceless apico dental stop /___V _{rounded}	[t̥ ^w ú:l]	'length'

	[t̠]	Pharyngealized voiceless apico dental stop else- where in pharyngealized syllable	[t̠í:n]	'clay'
/d/	[d]	Lamino dental voiced stop /___C _{fric} , C _{fric} ___	[dfó:s]	'push'
			[hdá:]	'calm down'
	[d̠ ⁿ]	Nasally released voiced apico dental stop /___n	[ɛId̠ ⁿ né:n]	'male name'
	[d̠ ^l]	Laterally released voiced apico dental stop /___l	[ɛád̠ ^l l]	'justice'
	[d̠]	Voiceless apico dental stop /___C̠	[dkú:ra]	'males'
	[d̠ ^w]	Labialized voiced apico dental stop /___V _{rounded}	[ɛad̠ ^w ú:]	'enemy'
	[d̠]	Voiced apico dental stop elsewhere	[ʔad̠í:b]	'male name'
	[d̠ ⁻]	Unreleased pharyngealized voiced apico dental stop in free variation with [d̠] /___voiced stop	[d̠bú:ɛa] [dbú:ɛa]	'wolves'

[d ⁿ]	Nasally released pharyngealized voiced apico dental stop / <u> </u> n	[bɛːd̠na]	'our eggs'
[d ^l]	Laterally released pharyngealized voiced apico dental stop / <u> </u> l	[fád̠l]	'remaining'
[d ^w]	Labialized pharyngealized voiced apico dental stop / <u> </u> v rounded	[nad̠ ^w úːr]	'binoculars'
[d]	Pharyngealized voiced apico dental stop else- where in pharyngealized syllable	[ʔad̠fːb]	'rod'
/k/ [k ^w]	Nasally released voice- less medio palatal stop / <u> </u> n	[k ⁿ nɪːse]	'church'
[k ^l]	Laterally released voiceless velar stop / <u> </u> l	[k ^l léːb]	'dogs'
[k]	Voiceless medio palatal stop / <u> </u> front V	[kéːf]	'pleasure'

[g]	Voiced velar stop		
	/__voiced fricative	[ʔágzab]	'bigger liar'
[k]	Voiceless velar stop		
	elsewhere	[ʔákəl]	'he ate'
/ʔ/	[ʔ]	Glottal stop	
		[zɪʔb]	'fox'

THE FRICATIVES

/f/	[v]	Partially or totally voiced labio dental fricative /__voiced C	[yíʋzɔr]	'he cries loudly'
[f ^w]		Labialized voiceless labio dental /__rounded V	[f ^w ú:t]	'come in!'
[f̥ ^w]		Labialized voiceless labio dental fricative /__rounded V	[f̥ ^w úta]	'kitchen towel'
[f̥]		Pharyngealized voiceless labio dental fricative in a pharyngealized syllable	[ʔásfə r]	'yellow'
[f]		Voiceless labio dental fricative (contact with the interior of lower lip) elsewhere	[fáhl]	'strong'

/s/	[s ^w]	Labialized voiceless alveolar fricative		
		/___rounded V	[s ^w ú:ʔ]	'market place'
	[s]	Voiceless alveolar fricative elsewhere	[sé:f]	'sword'
	[s̥ ^w]	Labialized pharyngealized voiceless alveolar frica- tive /___rounded V	[l̥s̥ ^w ú:s]	'thieves'
	[s̥]	Pharyngealized voiceless alveolar fricative else- where in pharyngealized syllable	[sé:f]	'summer'
/z/	[z ^w]	Labialized voiced alveolar fricative /___rounded V	[bz ^w urá:t]	'seeds'
	[z]	Voiced alveolar fricative elsewhere	[zaɾlú:l]	'bird'
	[z̥ ^w]	Labialized pharyngealized voiced alveolar groove fricative /___rounded V	[z̥ ^w ú:r]	'act of cheating'
	[z̥]	Pharyngealized voiced alveolar groove fricative elsewhere in pharyngealized syllable	[z̥árf]	'envelop'

/š/	[š ^w]	Labialized voiceless palatal surface fricative /___rounded V	[š ^w ú:f]	'look!'
	[ṣ̌]	Pharyngealized voiceless palatal surface fricative in a pharyngealized syllable	[ṣ̌ ^w ó:f]	'wash the floor'
	[š]	Voiceless palatal surface fricative elsewhere	[šé:X]	'sheik'
/ž/	[ž ^w]	Labialized voiced palatal surface fricative /___rounded V	[ž ^w ú:ɣ]	'hunger'
	[ẓ̌]	Pharyngealized voiced palatal surface fricative in a pharyngealized syllable	[ṣ̌áž]	'bread pan'
	[ž]	Voiced palatal surface fricative elsewhere	[ká rž]	'rolling'
/x/	[x ^w]	Labialized voiceless uvular fricative /___rounded V	[ʔax ^w ú:]	'his brother'

[X]	Pharyngealized voiceless uvular fricative in a pharyngealized syllable	[battí:X]	'watermelon'
[X]	Voiceless uvular fricative elsewhere	[?íXt]	'sister'
/ɣ/	[ɣ ^w] Labialized voiced uvular fricative /___rounded V	[ɣ ^w ú:l]	'fox'
[ɣ]	Pharyngealized voiced uvular fricative, in a pharyn- gealized syllable	[ɣtá:s]	'Epiphany'
[R]	Uvular trill in free variation with [ɣ] else- where	[Ré:b]	'he was absent'
[ɣ]	Voiced uvular fricative, in free variation with [R], elsewhere	[ɣé:b]	'he was absent'
/h/	[h ^w] Labialized voiceless pharyngeal fricative /___rounded V	[lh ^w ú:m]	'meats'
[h]	Voiceless pharyngeal fricative elsewhere,	[haší:š]	'grass'

/ɛ/	[ɛ ^w]	Labialized voiced pharyngeal fricative /___rounded V	[sɛ ^w ó:l]	'cough!'
	[ɛ]	Voiced pharyngeal fricative elsewhere	[ʔáɛad]	'he sat'
/h/	[h ^w]	Labialized voiceless glottal fricative /___rounded V	[h ^w úwwe]	'him'
	[h]	Voiceless glottal fricative elsewhere	[sáhra]	'evening'

THE NASALS

/m/	[m]	Syllabic bilabial nasal, in free variation with non syllabic [m] /C___#	[sím]	'firecracker'
	[m ^w]	Labialized bilabial nasal /___rounded V	[m ^w ú:t]	'die!'
	[m]	Bilabial nasal elsewhere	[má:y]	'girl's name'
	[m̥]	Syllabic pharyngealized bilabial nasal, in free variation with non syl- labic [m] /C___#	[hádm̥]	'digestion'

[m ^w]	Labialized pharyngealized bilabial nasal	/____rounded V	[m ^w usállí]	'prayer'
[m]	Pharyngealized bilabial nasal elsewhere in pharyngealized syllable		[máyy]	'water'
/n/	[n]	Syllabic alveolar nasal, in free variation with non syllabic [n] /C____#	[ʔíbn]	'son'
[n ^w]	Labialized alveolar nasal /____rounded V		[n ^w ú :r]	'light'
[n]	Alveolar nasal else- where		[náyy]	'raw'
[n ^w]	Labialized pharyngealized alveolar nasal	/____rounded V	[n ^w ú :s]	'dim!'
[n]	Pharyngealized alveolar nasal elsewhere in pharyngealized syllable		[nhá :r]	'day'

THE LATERALS

/l/	[l]	Syllabic alveolar lateral in free variation with non syllabic [l] /C___#	[ʔat _l]	'killing'
	[l ^w]	Labialized alveolar lateral /___rounded V	[l ^w ú:bye]	'beans'
	[l̥]	Devoiced /C___	[mít _{l̥}]	'like, as'
	[l]	Voiced alveolar lateral elsewhere	[ʔálla]	'he told her'
	[l ^w]	Labialized pharyngealized alveolar lateral /___rounded V	[maXl ^w ú:tə]	'mixture'
	[l̥]	Pharyngealized alveolar lateral elsewhere in pharyngealized syllable	[lábat]	'he kicked'

THE TRILLS

/r/	[ř]	Short voiced alveolar flap, in free variation with [r] /V___V, V___#	[šá-řa?]	'he blew'
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[r]	Voiced alveolar frictionless continuant, in free variation with [ř]	/V__V, V__#	[kbř :r]	'big'
[r]	Syllabic voiced alveolar trill /C__		[bádr]	'name'
[ř]	Voiceless alveolar trill	/C__#, C__V	[bíkr̥]	'the eldest'
			[kr̥á:d]	'kurds'
[r ^w]	Labialized voiced alveolar trill	/__rounded V	[r ^w ú:h]	'go!'
[ř]	Voiced alveolar trill elsewhere		[řáfaç]	'he lifted'
[ṛ̌]	Short pharyngealized voiced alveolar flap, in free variation with a pharyngealized voiced alveolar frictionless continuant	/V__V, V__#	[dá ṛ̌ab]	'he hit'

THE SEMI VOWELS

/w/	[w̥]	Pharyngealized labio velar glide in pharyngealized syllable	[t̥w̥á:l]	'long'
	[w]	Labio-velar glide	[l̥áw]	'if'
/y/	[y̥]	Pharyngealized palatal glide in pharyngealized syllable	[b̥ay̥á:d]	'whiteness'
	[y]	Palatal glide elsewhere	[fran̥ž̥íye]	'French'

THE VOWELS

/i:/	[i̥:]	Pharyngealized long closed high front vowel in pharyngealized syllable	[b̥í:d]	'white' (pl.)
	[i̥r̥]	Diphthong starting closed high front and becoming r coloured closed mid central /__r	[kt̥í̥r̥]	'much'
	[i̥r̥]	As above, pharyngealized /__r	[t̥í̥r̥]	'fly'
	[i:]	Long closed high front vowel elsewhere	[t̥í:n]	'fig'

/ɪ/	[ɜ]	r coloured short closed mid central vowel /___r	[hɜ' rʂ]	'wood'
[ɪ]		Pharyngealized short open high front vowel in pharyngealized syllable	[wɪtʰwá:t]	'bat'
[ɪ]		Short open high front vowel elsewhere	[bílboɪ]	'bird'
/e:/	[e:]	Pharyngealized long closed mid front vowel in pharyngealized syllable	[bé:d]	'eggs'
[ɛɜ]		Diphthong starting open mid front and becoming r coloured closed mid central /___r	[bɛɜrde]	'she is cold'
[ɛɜ]		As above, pharyngealized /___r	[tɛɜ rse]	'she is painted'
[e:]		Long closed mid front vowel elsewhere	[ké:n]	'he was'
[ɛ]		r coloured open mid front vowel /___r, in unstressed position	[bɛ'rdé:n]	'he is cold'
[ɛ]		r coloured, pharyngealized schwa /___r, in unstressed position	[tɛrʂé:n]	'he is becom- ing deaf'

[e]	Short closed mid front vowel elsewhere, in unstressed position	[lɔːne]	'my colour'
/a:/ [ɤː]	Pharyngealized r coloured long low central vowel /___r	[nɤːr]	'fire'
[aː]	Pharyngealized long low central vowel in pharyngealized syllable	[tɤːbɪʔ]	'flat'
[ɤː]	r coloured long low central vowel /___r	[dɤːr]	'hall'
[a]	Long low central vowel elsewhere	[fɤːdi]	'man's name'
/a/ [ɤ]	Pharyngealized r coloured short low central vowel /___r	[fɤːrd]	'duty'
[a]	Pharyngealized short low central vowel in pharyngealized syllable	[bɤːtɤl]	'champion'
[ɤ]	r coloured short low central vowel /___r	[bɤːrd]	'cold'
[a]	Short low central vowel elsewhere	[wɤːlad]	'child'

/o:/	[o ^h]	Diphthong starting open mid back and becoming closed mid central /___h	[r ^h o ^h h]	'soul'
	[o ^o]	Diphthong starting open mid back and becoming closed mid back /___l	[b ^o o ^l]	'urine'
	[o ^v]	Pharyngealized diphthong starting closed mid back and becoming open mid back /___r	[t ^o o ^v r]	'bull'
	[o ^o]	Pharyngealized diphthong starting closed mid back and becoming open mid back in pharyngealized syllable	[t ^o o ^o n]	'ton'
[o:]		Long closed mid back vowel elsewhere	[y ^o :m]	'day'
[o ^r]		Pharyngealized r coloured closed mid back vowel /___r in unstressed position	[t ^o r ^é :n]	'2 bulls'
[o ^r]		r coloured closed mid back vowel /___r, in unstressed position	[d ^o r ^é :n]	'two turn'
[o]		Pharyngealized closed mid back vowel in pharyngealized syllable, in unstressed position	[h ^o d ^é :n]	'two flower pots'

[o]	Closed mid back vowel elsewhere, in unstressed position	[ʔábo]	'cave'
/u:/	[ʊ:] Pharyngealized, r coloured long closed high back vowel /__r	[sú:r]	'wall'
[ʊ:]	r coloured long closed high back vowel /__r	[nú:r]	'light'
[u:]	Long closed high back vowel elsewhere	[fú:l]	'beans'
/u/	[ʊ] Pharyngealized r coloured closed high back vowel /__r	[sʊ ré:n]	'two walls'
[ʊ]	r coloured short closed high back vowel /__r	[nʊ ré:n]	'two lights'
[u]	Short closed high back vowel elsewhere	[ʃú]	'what'

3. Pharyngealization

Phonetically pharyngealization is a modification of a sound. This modification "includes qualification induced by the approximation of the wall of the pharynx to the root of the tongue".¹ The analysis presented in this thesis makes the assumption that pharyngealization can best be represented by a long component. The main argument for this choice is that pharyngealization often extends through a whole word and represents the phonetic facts directly. It may also be pointed out that if we associate the feature with a specific set of individual phonemes, the statement of assimilation will be relatively complicated since it is sometimes regressive, sometimes progressive and very often both regressive and progressive.

One disadvantage of the long component analysis is that it has a limited distribution: it only occurs in words which have either [t̤] [d̤] [s̤] [z̤] or [a̤]

[t̤f̤:n]	'clay, mud'
[d̤r̤o̤:b]	'hit!'
[l̤s̤ ^w ú:s]	'thieves'
[z̤ ^w ú:r]	'act of cheating'
[m̤ay]	'water'
[n̤há :r]	'day'
[ʔ̤alla]	'God'

¹K. Pike, Phonetics, p. 134.

However other analyses are possible

a) One possibility is to set up a pharyngeal contrast in a set of consonants. The normal proposal is

t	t̤
d	d̤
s	s̤
z	z̤

However in this dialect, pharyngealization can occur with words which do not have these t̤ d̤ s̤ z̤ and occurs quite noticeably with b m n l and r, for example:

[b̤á̤b̤a]	'father or pope'
[m̤á̤y]	'water'
[n̤á̤hr]	'river'
[r̤á̤:hbe]	'nun'

The number of consonants given phonemic status in such analysis is variable; some go to the extreme of recognizing pharyngealized counterparts of all consonants.

One can notice that [b̤] [m̤] [n̤] [l̤] and [r̤] and other pharyngealized consonants occur only with one vowel: [a], when not in presence of /t̤/ /d̤/ /s̤/ /z̤/. A lot of redundancy occurs here because of this fact and even when one of these consonants is absent, the severe distributional restriction (that there must be a back low vowel in the word) must be left as a phonotactic idiosyncrasy. It would clearly be preferable to establish a set of phonemes with maximally free distribution.

b) A further possibility is to set up pharyngeal and nonpharyngeal counterparts of the vowels and treat pharyngealization in the consonants as automatic. Miscellaneous items in this transcription are:

/ba:ba/	'father'
/ti:n/	'clay, mud'
/tu:l/	'length'
/te:r/	'volatile'
/daw/	'light'
/asfar/	'yellow'

Such an analysis is subject to the same objection as a): Although pharyngeal [a] will occur quite widely, pharyngeal counterparts of the other vowels would only be possible in words with [t] [d] [s] and [z].

The other objection is articulatory. D. H. Obrecht discussing pharyngealization says² "...emphasis centers articulatorily on the consonant, with the physical peak of the pharyngeal constriction observably occurring at approximately the same time as the peak of the main articulation [(This is) based on both internal and external observations, and upon muscular motion as felt by placing the fingers lightly on the pharyngeal area of the throat during phonation.]"

²D. H. Obrecht. Effects of the Second Formant or the Perception of Velarization Consonants in Arabic. P. 22-23.

Thus, analyzing pharyngealization as a consonantal feature would be preferable.

c) Perhaps, the analysis which would give maximum freedom of occurrence would posit the existence of pharyngeal \dot{t} \dot{d} \dot{s} \dot{z} and a back low vowel, equivalently phonologically pharyngeal \dot{a} (distinctive pharyngeality in the vowels being phonetically reflected by backness)

/ba:ba/

/ti:n/

/tu:l/

/te:r/

/daw/

/aʃfar/

The main restriction now is that a sequence of one of the consonants [t] [d] [s] [z] and [a] would have to agree in pharyngealization. However this restriction is exactly parallel to the one by which clusters of dental obstruents are pharyngeal or non-pharyngeal throughout.

4. Syllable Structure

There are five basic syllable types in Lebanese Arabic roots.

<u>Type</u>	<u>Canonical shape</u>
S ₁	CV
S ₂	CVV
S ₃	CVC
S ₄	CVVC
S ₅	CVCC

The five syllable types can be generalized by an expandible formula $S = CV_1^2 (C_1^2)$ which is read as "A syllable consists of a mandatory onset consisting of a simple consonant, a mandatory peak consisting of a long or a short vowel (long vowels considered to be as a string of two short vowels) and an optional coda, consisting of one or two consonants".

As a result of morphological and/or syntactic operations a sixth syllable type, which is limited in its distribution to inflected words rather than roots, can be formed; it is unusual in that it consists of an onset which has two consonants. It is interesting to note that in contrast to the relatively severe restrictions on two-member onsets in most languages, Lebanese Arabic permits all possible permutations of the inventory of thirty consonantal phonemes, except those which would violate the following phonological rules:

1. A two-member onset cannot consist of geminate consonants.
2. A two-member onset cannot consist of two consonants which are not homogeneous with respect to their pharyn-

gealization.

Syllable constraints

Lebanese Arabic is characterized by an extreme absence of sequential constraints within syllables.

Peaks. All vowel phonemes occur after all consonantal phonemes.

Onsets. All consonants may constitute the one-member onset of a syllable.

Aside from the two constraints mentioned above, all combinations of the consonantal phonemes are possible in two-member onsets.

Codas. All consonants may constitute the one-member coda.

Because of the low frequency of two-member codas in the corpus, a detailed analysis of their phonological constraints was not possible. One tentatively might postulate that such combinations would be subject to the rules mentioned above in conjunction with the two-member onsets.

5. Stress

The place of stress in an isolated word in this dialect of Lebanese Arabic is predictable in terms of the sequence of consonants and vowels in the individual word (more simply than in terms of the syllable structure of the word).

The basic word types are:

Monosyllabic words

CV	[šú]	'what'
CVC	[láu]	'if'
CVCC	[ʔábl]	'before'
CV:C	[bé:t]	'house'

Disyllabic words

CVCVC	[ʔáXad]	'he took'
CVCCVC	[ʔaftah]	'clearer'
CVCCV	[búkra]	'tomorrow'
CVCV:C	[balé:š]	'free'
CVCCV:C	[bá de:h]	'after'
CV:CV:C	[yomé:n]	'two days'

Trisyllabic words

CVCVCVC	[ʔábadan]	'not at all'
CVCV:CVC	[ʔawé:dIm]	'honest' (pl.)
CVCCVCV	[ʔažnabe]	'foreigner'
CVCCV:CV	[baʔlé:wa]	'pastry'

Four syllable words (low frequency)

CVCCVCVCVC	[fahhámetak]	'she explained to you'
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Preliminary Rule

Stress always appears on one of the last three syllables, it never goes back further than the third syllable from the end.

[sawwafItne] 'she showed me'

Main Rule

Stress falls on last V:C or VCC sequence in the word; if there is no V:C or VCC, it falls on first syllable of the word.

Where the word shows a syllable with a two-member onset, the above description of stress does not change.

This rule is subject to three classes of exceptions:

- (a)
- | | |
|------------|--------------------|
| [ʔábelna] | 'before us' |
| [šírɐlkon] | 'your work' |
| [bá ɛdkon] | 'after you' |
| [síhɛmkon] | 'your firecracker' |
| [háðɛmna] | 'our digestion' |

In these examples there is a schwa of epenthetic origin.

This schwa does not occur in other allomorphs of the word.

- | | |
|----------|---------------------|
| [ʔáble] | 'before me' |
| [šírɪa] | 'her work' |
| [bá do] | 'after him' |
| [síhmon] | 'their firecracker' |
| [háðmon] | 'their digestion' |

- (b) The second class of exceptions includes items such as:

- | | |
|----------|---------------|
| [darába] | 'he hit her' |
| [ʔaXáda] | 'he took her' |

and other words ending with the pronoun 'she'. In this case stress is on the penultimate syllable instead of being on the first, as our rule predicts, because an 'h' has been dropped.

This 'h' is still existent in other dialects of Beirut, and speakers with this pronunciation therefore follow the rule as stated above.

(c) The third class of exceptions includes items such as:

[darábha]

[ʔaXadha]

[ʔabú:] 'his father'

[ʔaXú:] 'his brother'

and other words ending with the adjective 'his' where an 'h' has been dropped

[ʔabú:h]

[ʔaXú:h]

6. Summary

The purpose of the present study has been to present the phonemic system of a Lebanese Arabic dialect. Further synchronic studies are needed on related Lebanese Arabic dialects before any firm conclusions can be drawn concerning the degree of divergence found among the different dialects mentioned in the introduction. Such studies are totally lacking at this time and it is to be hoped that those interested in Arabic dialectology will be stimulated to initiate such research.

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