

## Major Phonological Processes in Ṣanʿāni Arabic

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**Abstract.** Major phonological processes in Ṣanʿāni Arabic (SA) include epenthesis, assimilation, geminate devoicing, pausal diphthongization, pausal glottalization, *imālah*, and pharyngealization. The helping vowel /i/ is inserted after the first of three consonants or between word boundaries. If the article prefix /al/ is used with a second noun, the glottal stop of the article prefix is dropped, and thus no helping vowel is used. The helping vowel /i/ is also used between two words, the first of which ends with a two-consonant cluster and the second begins with a two-consonant cluster. Assimilation includes both progressive assimilation and regressive assimilation. The former is rare in SA. Geminate devoicing operates on the voiced stops /b/, /d/, /g/ and the affricate /j/. Pausal diphthongization operates on forms ending with /-i/ or /-u/ and changes them into the diphthongs /-iy/ ~ /-cy/ and /-uw/ ~ /-ow/, respectively. Pausal glottalization occurs in two cases: (1) After words with final /-a/ and (2) after a vowel preceded and followed by a consonant at the end of a word. *Imālah* occurs in a word final sequence /-ē/ or /-a/, especially in personal proper names. Its use is optional in SA.

### 1. Introduction

#### 1.1 Geographical and Ethnic Backgrounds

Ṣanʿā is the capital and seat of the government of Yemen, officially known as the Republic of Yemen. It is situated on the high plateau of central Yemen, 7500 feet above sea level. It has a population of about 180,000<sup>(1)</sup> people. It is built at the foot of a 900 foot mountain at the southern end of a cultivated valley. The surrounding mountains are barren, except for cultivated terrace areas. Its climate is generally clear

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(1) According to an estimate in *Post Report*, 1975, by the Department of State, U.S.A., p. 1.

and mild. Night temperatures rarely drop below 32°F in winter, and midday temperatures range in the 70s and 80s. Due to extreme dryness, dust is heavy at certain times during the year. The old section of Ṣanʿā, known as *ṣanʿā l-gadīma* or simply the *madīna*, is surrounded by a partially dismantled ancient city wall, and life within the city wall has changed little in the thousands of years since it was first settled.

More than ninety percent of the population of the Republic of Yemen are of Arab origin. A number of Arab and non-Arab immigrants are there to help in developing the country by working on many projects which the YAR has started in such fields as education, construction, health care, agricultural development, and recently the oil industry.

There are two major varieties of Arabic in use in Ṣanʿā today: the literary language, *al-fuṣḥā*, and the spoken language, i.e., SA. *Al-fuṣḥā* is the official language of the country, and it is used in mass media, official ceremonies, and public speeches. It is also the medium of instruction in Yemeni schools. SA, on the other hand, is the native spoken language of the majority of Ṣanʿānis, and it is the only means of communication for most of them. It is also a *lingua franca* used by minorities of various groups. Linguistic changes are taking place now due to the extensive contacts between Ṣanʿānis and outsiders, especially other Arabs, and due to the spread of education.

## 1.2 Material and Informants

The native speakers ("informants") whose speech served as the basis for the data selected for inclusion in this article are unsophisticated bona fide speakers of *ṣanʿāni* Arabic. They are male and their ages range between twenty and forty. A frequency list of approximately 2000 vocabulary items was compiled from tape recordings which I made of spontaneous unprepared conversations of those native speakers in different situations, such as greetings, telephone conversations, comments, interviews, etc. On most occasions the informants talked to each other either in their homes during *gāt* sessions or in such places as office buildings, coffeeshouses, etc. There was a search for tales, fables, anecdotes and stories from storytellers, poets and informants. In informant interviews the question, "How do you say ...?" was avoided as much as possible for the sake of authenticity. Indeed, some of them had the tendency to emulate my dialect or other Arabic dialects, especially Egyptian and Palestinian.<sup>(2)</sup> I have run across contrast of styles in the same speakers on different

(2) It should be pointed out that most of my informants have come in direct contact with a number of Arab immigrants working in Ṣanʿā, especially Egyptians and Palestinians. I was on the lookout for "speech emulation," e.g., one informant said, "*bakēt ṣagāyir*," 'a package of cigarettes' on one occasion and "*gafas ṣīgāyir*" on another occasion. The latter is the SA form. In instances such as this one, I would check with the informant again, or another informant would contribute saying, "we do not use this in our dialect." See: Frederic Cadora, "Some Linguistic Concomitants of Contactual =

occasions. Because of limitations of time and for circumstances beyond my control no children or female informants were interviewed.<sup>(3)</sup>

A limited but careful use was made of the following secondary data, including texts, word lists, grammars,<sup>(4)</sup> etc.: Rossi,<sup>(5)</sup> Nami,<sup>(6)</sup> Al-Akwa'<sup>(7)</sup> and Renaud.<sup>(8)</sup>

### 1.3 Data Treatment and Limitations of the Study

This study is a descriptive analysis of major phonological processes in SA; it is essentially synchronic.<sup>(9)</sup> No attempt has been made to refer to any diachronic facts. However, some reference is made to other colloquial Arabic dialects to highlight certain features of SA. Features that are not mentioned in this article may be assumed to be either similar to those in other Arabic dialects or needing further investigation, which lies beyond the scope of this study, which is a sketch of the chief or salient features of SA phonological processes. Features that need to be researched or further investigated are, among others, stress shifts, consonant and vowel deletion, and emphasis spread.

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≡ Factors of Urbanization," *Anthropological Linguistics*, 12, No. 1 (1970), 110-19 for a detailed linguistic study of this phenomenon.

- (3) It was almost impossible for me to hold a direct conversation with a woman. Only on two short occasions was I able to talk to a wife through her husband. She was very shy and conservative in her speech. Women in the YAR have their own livingrooms and their *qāt* chewing sessions.
- (4) None of those texts and grammars deals with the phonology of SA. I have used a very small number of the vocabulary items in them if my informants accepted them as words being authentic SA words.
- (5) Ettore Rossie, "Appunti di dialettologia del Yemen," *Rivista degli Studi Orientali*, 17 (1938), 230-65; *idem.*, "Nuove osservazioni sui dialetti del Yemen," *Rivista degli Studi Orientali*, 17 (1938), 460-72.
- (6) Yahya Nami, "Min al-Lahajāt al-Yamaniyya al-Hadīthah," *Majallat Kulliyyat l-'ādāb*, Cairo University, 8 (1946), 69-84; and 15 (1953), 103-13.
- (7) Ismā'īl Al-Akawa', *Al-Amṡāl Al-Yamaniyya* (Cairo: Dar Al-Ma'ārif, 1967).
- (8) Etienne Renaud, *An Introduction to Yemeni Spoken Arabic* (San'a: unpublished, 1977).
- (9) I was able to stay in San'a for approximately two months in 1985 and for another two months in 1986. The financial support for this research was provided by the U.S. Department of Education.



Table 2. Vowels.

## 1. Short.

	Front	Central	Back
High	i		u
Mid	e		
Low		a	

## 2. Long.

	Front	Central	Back
High	ī		ū
Mid	ē		ō
Low		ā	

## 2. Major Phonological Processes

## 2.1 Epenthesis

An epenthetic or a helping vowel is sometimes inserted within consonant clusters. Its occurrence does not affect meaning; it is used only as an aid to pronunciation. This feature is known as epenthesis or anaptyxis.

Between word boundaries a three-consonant cluster is encountered in two cases:

A. When a word ends with a single consonant and is followed by a word beginning with a double consonant or a two-consonant cluster. In such a case the helping vowel /i/ is inserted after the first of three consonants or between word boundaries. This does not include the assimilated /l/ of the article prefix. Examples:

hum-i-tgadduw?	'did they (m.) have lunch?'
hiy-i-ṣṭabahat?	'did she have breakfast?'
gad-i-ṣṭaʿfa	'he has already resigned'
law-i-tsawwag	'if he had gone shopping'
naʿam-i-ṣṭawfa θ – θaman	'yes, it was paid in full'

man-i-ṭṭalagʔ	‘who was released, set free?’
lākin-i-xfīf	‘but it is light’
maas-i-ṣhīh	‘he is not healthy’
lamman-i-ktasar	‘when it was broken’
yištūn-i-y <sup>o</sup> ūmūn	‘they (m.) want to swim.’

B. When a word ends with a two-consonant cluster or a double consonant and is followed by a word beginning with a single consonant. In such a case no helping vowel is used. Examples:

bank damm	‘blood bank’
layl ṭawīl	‘long night’
farg kabīr	‘big difference’
gurt ḏahab	‘gold earring’
hagg <sup>o</sup> ali	‘belonging to Ali’
šall zalatiy	‘he took away my money’
bi-yšinn mē	‘he filters water’

If the article prefix ‘al- is used with the second noun, the glottal stop of the article prefix is dropped, and thus no helping vowel is needed:

bank ad-damm	‘the blood bank’
gišr al-gahwah <sup>(10)</sup>	‘the skin of coffee beans’
gurt al-ḥarēweh	‘the bride’s earning’

A four-consonant cluster is encountered in two cases:

min-aṭ-ṭāgah	‘from the window’
kam-aṭ-ṭamāṭisʔ	‘How much are tomatoes?’

When a word with a final two-consonant cluster or a double consonant is followed by a word with an initial two-consonant cluster or a double consonant. In such a case the helping vowel is inserted between the two words:

gurt-i-ktasar	‘an earning was broken’
hilm-i-ntasa	‘a dream was forgotten’
štarayt-i- <u>kfūf</u>	‘I bought gloves’

(10) Although the /h/ of /-eh/-ah/ is not pronounced in most dialects of Arabic and it is dropped if the noun in which it occurs is the first of an ‘idāfa construction, it is audible in SA. /-eh/ and /-ah/ are used interchangeably unless preceded by any of the pharyngealized consonants /s/, /t/, /ḏ/ or by the velars /x-ġ/, or the pharyngeals /h-ʕ/, in which case only /-ah/ is used, if, however, /r/ or /g/ precedes, /-ah/ is usually used, e.g., /saiyyārah/ ‘car,’ /tāgah/ ‘window,’ etc., but /mareh ~ marah/ ‘woman,’ /šigāreh/ ~ šigārah/ ‘cigarette’ are also heard. In those instances where either /-eh/ or /-ah/ is used /-eh/ is more common.

## 2.2 Assimilation

### 2.2.1 Regressive Assimilation

Regressive assimilation in SA is frequent. The first consonant of a two-consonant cluster of stops or fricatives, excepting the pharyngeals /h/ and /<sup>c</sup>/, the glottal fricative /h/ and the dental stop /t/ assimilate to the second consonant in voicing. Examples:

b + k as in /yabkiy/	[yæpkiy]	'he weeps'
f + g as in /'afgar/	[ʻævgar]	'poorer'
θ + g as in /yi θ gal/	[yiðgæl]	'it becomes heavy'
ð + k as in /yaðkur/	[yæ θ kur]	'he mentions'
k + b as in /'akbar/	[ʻægbar]	'older; bigger'
ð + ḥ as in /'aðḥak/	[ʻa θ ḥak]	'I laugh'
t + l as in /rat l/	[rað l]	'pound (weight)'
s + j as in /masjūn/	[mæzjūn]	'imprisoned'
z + f as in /razfeh/	[ræsfeh]	'merry-making'
g + s as in /yigsil/	[yixsil]	'he washes'
g + š as in /bugšeh/ <sup>(11)</sup>	[bukšeh]	'one bugša'

Regressive assimilation also appears across word boundaries. Examples:

/ʻab + kabīr/	[ʻæpkæbir]	'old father'
/bas ġudweh/	[bæzġudweh]	'only tomorrow'
/ragad sālim/	[rægætsælim]	'Salim fell asleep'

Total regressive assimilation occurs within words or across word boundaries in the following cases:

n + z as in / <sup>c</sup> a-nzawwij/	[ <sup>c</sup> æzzæwwij]	'we will marry off s.o.'
d + b as in /mā gad biš/	[mægæppiš] <sup>(12)</sup>	'there isn't any more'
d + t as in /ragad + t	[tægætt]	'I fell asleep'

### 2.2.2 Progressive Assimilation

Progressive assimilation is rare in SA. The following are the only examples of progressive assimilation that were found:

ḥ + d as in /waḥdi/	[wæḥti]	'alone, by myself'
ḥ + b as in /'ahbal/	[ʻæhpæl]	'weak-minded'
j + l as in /yijlis/	[yijjis]	'he sists down'

(11) A *bugšeh* is approximately 1/40 of a Yemeni riyal.

(12) See 2.4 below.

m + b as in /gambar/	[gæmmar]	'he sat down'
/gambaʕ/	[gammaʕ]	'he walked arrogantly'

### 2.2.3 Assimilation of /h/ in Pronominal Suffixes

A. /h/ of the pronominal suffixes /-ha/, /-hum/ and /-hin/ assimilates on to a preceding /t/ of nominal or verbal forms in context only. In the following examples, the first item is the pausal form and the other item is the context form.

madasatha	~ madasatta	'her school'
baythum	~ bayttum	'their (m.) house'
gāthin	~ gāttin	'their (f.) qat' <sup>(13)</sup>
gālatha	~ gālatta	'she said it (f.)'
ramathum	~ ramattum	'she shot them (m.)'
ramathin	~ ramattin	'she shot them (f.)'

B. /h/ of the third person masculine singular pronominal suffix /-ih/ assimilates on to a following negative particle /-š/. Examples:

šallaytih		'I (you) took it'
*mā šallaytiḥš	————▶ mā šallaytišš	'I (you) did not take it'
'absarih		'he saw it'
*mā 'absariḥš	————▶ mā 'absarišš	'he did not see it'
šannatih		'she filtered it'
*mā šannatiḥš	————▶ mā šannatišš	'she did not filter it'
gālatih		'she told him'
*mā galatiḥš	————▶ mā gālatišš	'she did not tell him'

If the verb ends with a long vowel shortening occurs at the same time. Examples:

ligīh		'he found it'	————▶
*mā ligīḥš	————▶ māligišš	'he did not find it'	
yilgāh		'he finds it'	————▶
*mā yilgāḥš	————▶ 'māyilgašš	'he does not find it'	
ligyūh		'they (m.) found it'	————▶
*mā ligyūḥš	————▶ māligyūšš	'they (m.) did not find it'	

(13) *Qāt* or *q'āt* (var. *kāt*) is a shrub cultivated for its leaves that act as a stimulant narcotic when chewed or used as a tea. It is also known as the "African tea" or "Arabian tea."



(cf. /mäligyūš/ 'they (m.) did not find' and /mā ligyušš/ 'they (m.) did not find it (m.)')

### 2.3 /-ayn/

————▶ /-ann/

/-tayn/

Verb forms that end with /-ayn/, the third person feminine plural subject marker, or /-tayn/, the second person feminine plural subject marker, change /-ayn/ or /-tayn/ into /-ann-/ before a pronominal suffix:

garrayn	'they (f.) taught'	————▶	garrannah	'they taught him'
		————▶	garrannaha	'they taught her'
		————▶	garrannak	'they taught you (m.s.)'
		————▶	garrannakum	'they taught you (m.p.)'
garraytayn	'you (f.p.) taught'	————▶	garraytannah	'you taught him'
		————▶	garraytannahin	'you taught them (f.)'
		————▶	garraytannaha	'you taught her'
		————▶	garraytannana	'you taught us'
etc.	etc.	etc.	etc.	

### 2.4 Geminate Devoicing

An interesting characteristic of the SA sound system that most dialects of Arabic lack (e.g., Egyptian, Levantine and Gulf Arabic) is the devoicing of geminate stops as well as the affricate /j/.

The stops /b/, /d/, /g/ and the affricate /j/ become devoiced if they are doubled and occur intervocalically. Examples:

bb ———▶ pp:

xabbāz	————▶	[xæppæz] 'baker'
dabbeh	————▶	[dæppeh] 'gas cylinder'
ħabbeh	————▶	[ħæppeh] 'grain, seed'
ḏubbi	————▶	[ḏuppi] 'a fly'

dd ———▶ tt:

ʿaddād	————▶	[ʿættæd] 'counter, meter'
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jaddah	————▶	[jættæh] ‘Jadda’
jaddi	————▶	[jætti] ‘my grandfather’
ḥaddah	————▶	[ḥættæd] ‘Hadda’
ḥaddād	————▶	[ḥættæd] ‘blacksmith’

gg ———▶ kk:

ḥaggi	————▶	[ḥækki] ‘mine, belonging to me’
ḥaggak	————▶	[ḥækkæk] ‘yours (m.s.)’
naggār	————▶	[næggār] ‘envious person’
ḥaggār	————▶	[ḥæggār] ‘contemptuous, disdainful person’

jj ———▶ čč:

najjār	————▶	[næččær] ‘carpenter’
dajjāl	————▶	[dæččæl] ‘swindler’
rajjāl	————▶	[ræččæl] ‘man’
fajjār	————▶	[fæččær] ‘braggart’
ḥajjī	————▶	[ḥæčči] ‘one who has performed the pilgrimage to Mecca’

This rule also applies to words in which the *l* of the article prefix precedes a sun letter. Example:

‘ad-dabbeh	————▶	[‘attæppeh] ‘the gas cylinder’
‘ad-dimm	————▶	[‘attimm] ‘the cat’

It also applies to words in which a */-t-/* assimilates to a following */d/*. This is encountered in the third person feminine or the second person masculine singular form of the imperfect verb:

bitdāwim	————▶	biddāwim	————▶	[bittæwim]	‘she goes to work’ ‘you (m.s.) go to work’
bitdawwir	————▶	biddawwir	————▶	[bittæwwir]	‘she is looking (for s.th.)’ ‘you (m.s.) are looking (for s.th.)’
bitdallil	————▶	biddallil	————▶	[bittæallil]	‘she auctions (s.th.)’ ‘you (m.s.) auction (s.th.)’

## 2.5 Pausal Diphthongization

Pausal diphthongization is another unique feature of SA. Verb forms ending with /-i/ or /-u/ in most other dialects of Arabic end with the diphthong /-iy/ ~ /-ey/ or /-uw/ ~ /-ow/, respectively in SA. /-iy/ and /-uw/ are more commonly heard than /-ey/ and /-ow/. /-i/ occurs in the following verb forms:

1. The second person feminine singular of the perfect and the imperfect aspects.
2. The second person feminine singular of the imperative.
3. The third person masculine singular of the perfect of final-weak verbs that end with /-i/.
4. The third person masculine singular of the imperfect of final-weak verbs who is perfect ends with /-a/.

/-u/ occurs in the following verb forms:

1. The second and third person masculine plural of the perfect and the imperfect.
2. The second person masculine plural of the imperative. Examples:

katabti	————▶	katabtiy ~ katabtey	'you (f.s.) wrote'
tuktubi	————▶	tuktubiy ~ tuktubey	'you (f.s.) write'
'uktubi	————▶	'uktubiy ~ 'uktubey	'write (f.s.)!'
bigi	————▶	bigiy ~ bigey	'he stayed'
yisgi	————▶	yisgey ~ yisgey	'he irrigates'
katabtu	————▶	katabtuw ~ katabtow	'you (m.p.) wrote'
tuktubu	————▶	tuktubuww ~ tuktubow	'you (m.p.) write'
katabu	————▶	kabuw ~ katabow	'they (m.) wrote'
yuktubu	————▶	yuktubuww ~ yuktubow	'they (m.) write'
'uktubu	————▶	'uktubuww ~ 'uktubow	'write (m.p.)!'

Pausal diphthongization is also heard, but less frequently, in words ending with /-i/ or /-u/. Examples:

'ahli	————▶	'ahliy ~ 'ahley	'my folks'
naṣrāni	————▶	naṣrāniy ~ naṣrāney	'Christian'
kitli	————▶	kitliy ~ kitley	'tea kettle'
mista <sup>c</sup> fi	————▶	mista <sup>c</sup> fiy ~ mista <sup>c</sup> fey	'(act. part.) having resigned'
'antu	————▶	'antuww ~ 'antow	'you (m.p.)'
hu	————▶	huww ~ how	'he'

In context, i.e., if the vowel /-i/ and /-u/ are not word-final, no diphthongization occurs. Examples:

mā xazzanūš	‘they (m.p.) did not chew qat’
mā xazzantīš	‘you (f.s.) did not chew qat’
‘akaltūha	‘you (m.p.) ate it’
‘addaytūni	‘you (m.p.) gave me’
xuḏīha !	‘take (f.s.) it!’

## 2.6 Pausal Glottalization

Pausal Glottalization occurs in two cases:

1. After words ending with /-a/. Examples:

‘adda	————▶ [‘ættæ]	————▶ [‘ættæ’]	‘he gave’
rama	————▶ [ræmæ’]		‘he threw’
tka	————▶ [tkæ’]		‘he learned’
‘addayna	————▶ [‘ættæynæ]	————▶ [‘ættænæ’]	‘we gave’
hayya	————▶ [hæyyæ’]		‘come! come here!’
lilma	————▶ [lilmæ’]		‘why?’
hāna	————▶ [hænæ’]		‘here’
katabna	————▶ [kætæbnæ’]		‘we wrote’
katabha	————▶ [kætæbhæ’]		‘he wrote it’
katabnaha	————▶ [kætæbnæhæ’]		‘we wrote it’

2. After a vowel preceded and followed by a consonant at the end of a word. If the vowel is long, it is usually shortened and if the last consonant is voiced, it becomes voiceless due to the process of pausal glottalization. Examples:

‘imām	————▶ [‘imæ’m]	‘Imam’
‘assās	————▶ [‘æssæ’s]	‘he built’
‘aθ-θalūθ	————▶ [‘æθ θælu’θ]	‘Tuesday’
dīk	————▶ [di’k]	‘rooster’
balas	————▶ [bælæ’s]	‘cactus fruit’
dimm	————▶ [di’m]	‘cat’
bunn	————▶ [bu’n]	‘Yemeni coffee’
gālōn	————▶ [gælo’n]	‘gallon’

mxazzinīn	————▶	[mxæzzini'n]	'having chewed (m.p.) qat'
rāǧid	————▶	[ræǧi't]	'sleeping (m.s.)'
ǧirig	————▶	[ǧiri'k]	'he drowned'
xabbāz	————▶	[xæppæ's]	'baker'
ǧurrāb	————▶	[ǧurræp]	'(coll.) ravens'

If the last consonant is a /-h/, or a /-h/ or a /<sup>c</sup>/, the glottal stop is not usually heard:

bih	'there is; there are'	luḥūḥ	'pancake bread'
ḥilbeh	'fenugreek'	faṣīḥ	'eloquent'
zalatch	'his money'	ṣabūḥ	'breakfast'
katabūḥ	'they wrote it'	šābi <sup>c</sup>	'not hungry'
katabnāḥ	'we wrote it'	jāwi <sup>c</sup>	'hungry'
katabtīḥ	'you (f.s.) wrote it'	šu <sup>c</sup> šū <sup>c</sup>	'elegant'

## 2.7 Imālah

*Imālah* is usually defined as the inclination or deflection of /ā/ in the direction of /ē/ and that of /a/ in the direction of /e/.<sup>(14)</sup> The use of *imālah* was confined to certain tribes in pre- and post-Islamic Arabian Peninsula. Some forms of *imālah* are present today in certain Magribi and Lebanese dialects of Arabic.<sup>(15)</sup>

In SA words that ended originally in /ā/, which include singular feminine adjectives of color and defect, incline from /ā/ to /ē/ and then shorten to /e/. Examples:

ḥamrā'	————▶	ḥamrē'	————▶	ḥamre'	'red (f.s.)'
'amyā'	————▶	'amyē'	————▶	'amye'	'blind (f.s.)'
bayḏā'	————▶	bayḏē'	————▶	bayḏe'	'white (f.s.)'
latgā'	————▶	latgē'	————▶	latge'	'stammerer (f.s.)'
'awrā'	————▶	'awrē'	————▶	'awre'	'one-eyed (f.s.)'
mā'	————▶	mē'	————▶	me'	'water'
jā'	————▶	je'	————▶	je'	'he came'
warā'	————▶	warē'	————▶	ware'	'behind'

(14) For a definition and discussion of *imālah*, see W.H.T. Gairdner, "The Arab Phoneticians on the Consonants and Vowels," *Moslem World*, 25 (1935), 242-45; and Mortimer Sloper Howell, *A Grammar of the Classical Arabic Language* (Allahabad, 1883), IV: i, pp. 738-71.

(15) See W. Wright, *A Grammar of the Arabic Language*, 3rd ed. (Cambridge University Press, 1967), p. 7.

Forms ending in /-a/ incline from /-a/ to /-c/, especially in personal proper names. Examples:

mūsa	————▶	mūse	'Musa'	layla	————▶	layle	'Laila'
yahya	————▶	yahye	'Yahia'	tagwa	————▶	tagwe	'Takwa'
ḥna	————▶	ḥne	'we'	'ana	————▶	'ane	'I'

It should be pointed out that final /ā/ in the words cited above remains /ā/ if they are not followed by pause, e.g., /jā`al-wagt/ 'the time has come,' /mā`al-maṭar/ 'rain water,' /sawdā`al-`uyūn/ 'black-eyed, (f.s.)' 'ḥna gad sirna/ 'we have already left,' etc. The use of *imālah* in SA is optional, although older Ṣan`ānis use it almost exclusively.

## 2.8 Pharyngealization<sup>(16)</sup>

SA pharyngealized consonants are /t̤/, /s̤/ and /ḏ̤/. Pharyngealization is not limited only to a pharyngealized consonant, but affects neighboring consonants and vowels and sometimes the whole word. Compare, e.g., /fatar/ 'it became warm' and /faṭar/ 'he broke s.th.'. /fa/ in /fatar/ is similar to English /f/ in /fat/, but in /faṭar/ the /fa/ sound is similar to that in /father/, i.e., it is backed and velarized. The quality of the vowel sound a is different in /fatar/ from that in /faṭar/. In some analyses of Arabic f in /faṭar/, for example, would also be considered as a pharyngealized consonant. In this analysis, however, only /t̤/, /s̤/ and /ḏ̤/ are the pharyngealized consonants and other sounds affected by these consonants are considered plain and thus transcribed without subscript dots. In fact, pharyngealization varies from one region to another and from speaker to speaker.

Finally, it has been shown that the phonological processes of geminate devoicing, pausal diphthongization, and pausal glottalization are unique in SA and that SA shares the features of epenthesis, assimilation, *imālah* and pharyngealization with other Arabic dialects, such as Gulf, Levantine, and Egyptian. This study does not claim to be definitive; features that need to be researched or further investigated are stress shift, consonant and vowel deletion, and emphasis spread.

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(16) The feature of pharyngealization is sometimes referred to as "emphasis" or "velarization." "Pharyngealization" is probably a more satisfactory term since it does not suggest forceful articulation or features of the velars x-ḡ or the pharyngeals h-c. It is known as "itbāq" in Arabic grammar.

## التغيرات الفونولوجية في اللهجة الصناعية

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ملخص البحث . يتناول هذا البحث التغيرات الفونولوجية في اللهجة الصناعية وتشمل الإقحام اللغوي (إقحام صوت في صلب كلمة ما) والمائلة والجهر والإهماس وإدغام الصوائت الوقفي أو التهائي والإهماز الوقفي والإمالة . والإقحام اللغوي عبارة عن استعمال حرف العلة المساعد وهو الكسرة في صلب كلمة ما أو ما بين كلمتين لتيسير النطق . والمائلة نوعان : مائلة راجعة، ومائلة إتباعية وتشمل المائلة أيضاً بالإضافة إلى المائلة في الأصوات مائلة الهاء في الضمائر المتصلة . وتشمل عملية الإهماس تحويل أصوات الباء والداد والحميم المجهورة المضعفة إلى نظائرها المهموسة المضعفة وهي الباء والتاء والـ ك (الكاف في الكشكشة)، والكاف وتحويل الصوائت الوقفية (أي التي تقع في آخر الكلمة) إلى أصوات مركبة diphthong يعرف بإدغام الصوائت الوقفي . والإهماز الوقفي هو إضفاء صفة الهمز على صوت ما، ويحدث هذا التغيير في حالتين : ١- في آخر الكلمة التي تنتهي بألف المد أو الألف المقصورة؛ ب- بعد صائت إذا سبقة صامت في آخر الكلمة . أما الإمالة فتشمل إمالة الفتح نحو الكسر.