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Exploring Vowel Epenthesis in Monosyllabic Words: A Perspective from Optimality Theory on Yemeni Hijazi, and Quranic Arabic^(*)

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Abstract

This study examines vowel epenthesis (VE) in monosyllabic words in Quranic Arabic (QA), Yemeni Dialects (YD), and Hijazi Dialects (HD) using Optimality Theory (OT). Over 150 monosyllabic words from Quranic texts were analyzed to compare vowel epenthesis patterns. Findings reveal that Quranic Arabic and Yemeni Dialects largely resist vowel epenthesis, maintaining original consonant clusters, though Quranic Arabic may permit it in limited contexts. Yemeni Dialects strictly avoid vowel epenthesis, even when Quranic Arabic allows it sparingly. In contrast, Hijazi Dialects frequently employ vowel epenthesis, inserting [i], [a], or [u] depending on vowel harmony and phonological conditions, though some words remain without epenthesis. Vowel Epenthesis is particularly notable in CVCC structures within Hijazi Dialects. The study highlights dialectal variation in epenthesis tolerance, influenced by historical, sociolinguistic, and phonological factors. These findings contribute to understanding phonological constraints in Arabic and the interplay of linguistic forces shaping dialectal differences.

Keywords: Vowel Epenthesis (VE), Quranic Arabic (QA), Yemeni Dialect (YD), Hijazi Dialect (HD), Levantine Dialect (LD) monosyllabic words, codas, OT.

Introduction:

VE refers to the insertion of a vowel sound within a word, usually to make pronunciation easier or to conform to phonological rules. In QA this phonological feature may occur word-internally across word boundaries, but it frequently occurs in the coda of monosyllabic words in most ADs. The process of vowel epenthesis, particularly in Arabic dialects has been discussed by many researchers. Some researchers such as Gouskova (2010) focused on the phonological implications and the conditions under which it occurs. Other researchers focused on the dialectal variation among different Arabic dialects, Al-Shahrani (2020), and Bassiouney, (2009). Some other researchers built their studies on following other phonological processes that are brought about by VE like vowel harmony McCarthy (1979) and Baker & White (2021).

Review of Literature:

One of the pioneers who explored VE in Arabic dialects to the extent that all other subsequent studies were based on his foundational work was McCarthy. McCarthy (1979) investigates the phonological and morphological structure of Semitic languages, focusing on Arabic. McCarthy addresses formal issues in representing these structures and provides a framework for understanding how phonological processes like vowel harmony, assimilation, and epenthesis operate within Semitic languages. McCarthy's work is ground-breaking in developing theories of nonlinear phonology, significantly influencing how Arabic and other Semitic languages are analyzed within modern phonological theory. In (2000), McCarthy examines two approaches within Optimality Theory—"Harmonic Serialism" and "Parallelism". Harmonic Serialism can better capture certain phonological processes that require gradual changes, such as epenthesis and assimilation. Through case studies and formal arguments, he explores how these two models impact phonological theory, contributing to a deeper understanding of phonological derivation within Optimality Theory. Based on the monumental works of John McCarthy, several other studies followed suit and discussed Arabic phonological processes such as epenthesis, syncope and vowel intrusion.

Another focus on VE is the acoustic analysis of the quality and the quantity of the epenthetic vowel in terms of length and duration. Lahrouchi, A. and

Ingleby (2008) examine the phenomenon of vowel epenthesis in Moroccan Arabic through both acoustic and phonological analyses. Their findings highlight the role of vowel epenthesis in facilitating pronunciation and maintaining phonotactic constraints, contributing to a deeper understanding of syllable structure and sound patterns in Moroccan Arabic. Gouskova & Hall (2011) and Hall (2011) show that epenthetic and lexical vowels in Lebanese Arabic are acoustically distinct, with epenthetic vowels typically shorter or backer. This distinction aids learners in differentiating them. This aligns with observations that LDs tend to use a shorter [i], while HD uses a full epenthetic [u], akin to a lexical vowel. Similar to acoustic studies is a study by Al-Mohanna (2021). The study explores the phenomenon of vowel epenthesis in Urban Hijazi Arabic (UHA) and it investigates how vowel epenthesis occurs in different phonological environments, examining both linguistic and social factors that influence this process. The analysis suggests that vowel insertion is not a straightforward, rule-governed process but rather a gradual phenomenon that can vary across speakers and contexts.

Other epenthetic studies focus on the comparison of ADs. Al-Muhanna (2021) compares the patterns of epenthesis in Urban Hijazi Arabic (UHA) to those in other Arabic dialects and proposes that it reflects a balance between phonological structure and speaker-specific variation. He proposes that VE is a flexible and context-dependent process that interacts with factors such as phonological constraints, speech rate, and the individual speaker's linguistic idiosyncrasies. Alqahtani and Musa (2015) investigate how Arabic loanwords adapt to Hausa phonology through vowel epenthesis. They analyze how vowels are inserted to accommodate Arabic consonant clusters that do not align with Hausa syllable structure, making the words easier for Hausa speakers to pronounce. Baothman (2019) analyzes regional variations in Saudi Arabia in epenthesis patterns, noting that some dialects, such as Hijazi and Najdi, apply vowel epenthesis more consistently, especially in word-medial and final clusters, while others show less reliance on this process. Baothman highlights how these epenthesis patterns reflect underlying phonological constraints unique to each dialect, as well as social and regional influences. Jarrah (1993) presents a comprehensive phonological study of the Madina variety of Hijazi Arabic using a non-linear (autosegmental) framework. Jarrah examines vowel epenthesis and analyzes how these

features align with broader phonological theories and argues that non-linear representations capture the underlying phonological rules of Madina Hijazi Arabic more accurately than linear models. Elashhab (2018) explores both vowel epenthesis and syncope (vowel deletion) across several Arabic dialects, examining how these processes shape syllable structures and phonotactics.

Gouskova and Hall (2011) provide a detailed phonological analysis of epenthetic vowels in Levantine Arabic, suggesting that epenthetic vowels in these dialects are governed by universal phonological constraints tailored to the specific phonotactic needs of Levantine Arabic. Through examining various languages, Hall (2003) proposes that vowel intrusion reflects an overlap of articulatory gestures rather than a distinct phonological process. This analysis sheds light on the boundary between phonetics and phonology, illustrating how speech timing can produce vowel-like segments without affecting underlying phonological representations. Harrat and Bouzouine (2022) review recent advancements in automatic speech recognition (ASR) for Arabic dialects, addressing the challenges posed by dialectal variation in Arabic. Kiparsky (2003) analyzes Arabic syllable structure using Optimality Theory, focusing on moras as units of syllabic weight. He examines how syllabic weight influences stress patterns and phonological processes across dialects. Kiparsky argues that moraic constraints shape syllable structures and the use of epenthetic vowels, demonstrating how dialects balance universal constraints with specific rules, thus highlighting phonological variation in Arabic.

The work of Watson (1993, 1996, 1999, 2002, 2007, 2011, 2012, 2018) was ground-breaking in delving deeper into the Yemeni dialects across the country. Watson (1999) discusses Modern Spoken Arabic in San'ani and Cairene dialects. In this chapter, Watson explores syllable structure and syllabification patterns in Modern Spoken Arabic, specifically focusing on the San'ani and Cairene dialects. She discusses the phonological rules governing syllable formation and the implications for understanding Arabic phonology more broadly. Watson (2002) provides an in-depth examination of the phonological and morphological systems of Arabic. Watson analyzes the interactions between these two domains, offering insights into the complexities of Arabic linguistics and the unique features of its phonological and morphological structures. Watson (2007) examines syllabification patterns across various Arabic dialects, focusing on the role of long segments

and mora sharing. She discusses how these factors influence syllable structure and phonological processes, contributing to the understanding of dialectal variation in Arabic. Watson (2011) discusses the interrelationship between morphology and phonology in Arabic, highlighting how morphological processes influence phonological patterns and vice versa. Watson provides examples from different Arabic dialects to illustrate these interactions, contributing to the broader understanding of Arabic linguistics. Watson (2012) investigates the contact between the San'ani and Tihami Arabic dialects in Southern Yemen. She examines the linguistic features that emerge from this contact, discussing the implications for dialectology and the understanding of language change in the region. Watson (2018) addresses the representation of vowels in Arabic dialects and its implications for phonological theory. She analyzes how vowel systems vary across dialects and discusses the theoretical consequences of these variations for understanding phonological processes in Arabic.

The current study is distinguished from the previous studies in the fact that it focusses on monosyllabic words and neglect VE across word boundaries. It also takes its examples from Quran as a starting point and compares the Quranic words to two main Arabic dialects, namely YD and HD from the perspective of OT.

The Current Study:

This paper compares QA, YD and HD in relation to VE in the codas of monosyllabic words and attempts to explain these differences based on phonological constraints in Optimality Theory (OT). More than a hundred and fifty monosyllabic words (see Appendix A) have been collected from the Quran and compared with YD and HD. Native speakers from YD and HD are asked to read these words in isolation. They were recorded and their production was analyzed by the researcher and compared to the recitation of the Quran. The analysis focuses on the similarities and differences between these dialects and the QA to find out which dialect is closer to QA in terms of VE.

Significance of the Study:

This study is significant because it investigates the phenomenon of vowel epenthesis across different Arabic varieties-Hijazi Dialect, Yemeni Dialects, and Quranic Arabic. While vowel epenthesis has been described in various linguistic contexts, little comparative work has been conducted on its

distribution and functions in comparison to Quranic Arabic and Hijazi dialect that is claimed to be the closest variety to the Quranic language. The study contributes to understanding how epenthesis is employed to resolve phonotactic constraints, to maintain syllable structure, and to reflect historical and sociolinguistic variation. It also provides valuable insights into the diachronic development of Arabic phonology and the extent to which modern dialects preserve or diverge from Classical and Quranic patterns.

Questions of the Study:

- 1- How is vowel epenthesis realized in monosyllabic and polysyllabic words in Hijazi Dialect, Yemeni Dialects, and Quranic Arabic?
- 2- What phonological environments trigger vowel epenthesis in each variety?
- 3- To what extent do these varieties differ in their tolerance of epenthesis, particularly in coda and onset positions?
- 4- What historical and sociolinguistic factors may account for the observed similarities and differences?

Objectives of the Study:

- 1- To describe and analyze the occurrence of vowel epenthesis in Hijazi Dialect, Yemeni Dialects, and Quranic Arabic.
- 2- To identify the phonotactic constraints motivating epenthesis in each variety.
- 3- To compare the patterns of epenthesis across the three varieties in order to highlight points of convergence and divergence.
- 4- To account for the historical, phonological, and sociolinguistic factors that shape the current realizations of vowel epenthesis.
- 5- To contribute to broader discussions of Arabic phonology by situating the findings within theoretical models of syllable structure and repair strategies.

Demographics of Native Speakers Participants:

A total of four native speakers participated in the study, representing two dialect groups: Hijazi Dialect (HD) and Yemeni Dialect (YD). While the sample is admittedly small, it is representative for the phonological patterns under investigation as the study is qualitative and descriptive rather than quantitative, and the phenomenon under study (vowel epenthesis) is categorical, not subject to wide individual variation. The participants were carefully selected to reflect the dialectal norms. The HD represented in the study is the Hadhari (urban) dialect spoken in Medina excluding the Beduine dialect spoken among the Medina tribes. The YD represented in the study is

the Tazzi dialect spoken in the province of Taiz. It is important to notice that the Urban HD has no considerable differences compared to Beduine Dialect as far as VE is concerned. Based on descriptions and preliminary observations, other YDs such as Sanani, Tihami, and Hadhrami Dialect do not significantly differ from the Tazzi Dialect as regard to VE. (Watson: 1993). The age of the participants ranges from 40 to 60, with an average age of 50 years for HD speakers and 55 years for YD speakers. For both YD and HD speakers, one speaker is male and the second one is female. All the participants had completed postgraduate studies. All participants were native speakers of their respective dialects and reported using it as their primary means of communication in daily life. HD speakers primarily hailed from Madina, while YD speakers were from Taiz.

Words Selection Criteria:

The selection was limited to monosyllabic words—those consisting of a single syllable. Among these, further refinement was applied to identify only words with double consonants in the coda position (also referred to as geminated or doubled final consonants). Monosyllabic words are defined as those containing a single syllable, typically structured as CVC (Consonant-Vowel-Consonant) or similar patterns. Double consonants in the coda position refer to the consonants that occur at the end of a syllable, specifically those that are geminated. This feature, commonly found in Arabic phonology, includes examples such as words ending in "-bb" or "-ll". This systematic filtering ensures that the selected words meet the criteria of being both monosyllabic and having a geminated coda consonant. The methodology provides a focused subset of Quranic vocabulary for phonological analysis.

Presentation of Words to Native Speakers and Data Validation:

The words in the respective dialects were presented to native speakers in written form using the Arabic script, accompanied by the necessary diacritics to ensure clarity and ease of reading. This approach minimized ambiguity and allowed participants to accurately interpret the intended pronunciation of each word. Additionally, the words were recorded to capture the participants' spoken responses for further analysis. After transcribing the recordings, the researcher conducted a follow-up meeting with the participants. During this session, participants were asked to verify their recorded pronunciations and clarify any inconsistencies. This step ensured that the words were pronounced

according to their specific dialects and helped confirm the accuracy of the transcriptions. By involving participants in the validation process, the researcher enhanced the reliability of the recorded data and ensured that it accurately reflected the phonological characteristics of each dialect.

VE in QA and other Ads:

Arabic syllable structure is basically a simple sequence of CVC. The syllable types in Arabic are relatively simple compared to some other languages. The QA does not allow more than C in the onset position, and it may allow two CC in the coda position maximum. QA tends to avoid complex consonant clusters. It allows consonants cluster CC medially and finally, but never at the beginning of the word. QA does not favor VE finally to break the final CC cluster, but it happens sparingly as in [θuluθ], “one third” [rubuʃ], “quarter” [sudus], “one sixth”, [sabuʃ], “lion”, and [nukur] “hardship”. However, QA allows VE across word boundaries to maintain the flow, rhythm, and clarity, e.g., “bism(i)Allāh”. It also allows double vowel madd “elongation”. Vowels are inserted or elongated during recitation (e.g [maaʔ] “water”. Moreover, an epenthetic vowel is added in tanween (vowel+nuun [n] consonant) as in [ʃaʔab(un)?aliim] “painful punishment” is realized as [ʃaʔabunaliim], where the glottal stop [ʔ] is dropped and replaced by a vowel [a]. In this study, VE only in monosyllabic words, not across word boundaries, is thoroughly discussed.

HD, on the other hand, in its Bedouin version may allow syncope by dropping the vowel between the [CC] in the onset as shown in Table (1).

Table (1)
Syncope in HD

QA	YD	HD	meaning
[baqara]	[baqara]	[bgara]	cow
[tʃalaʃat]	[tʃalaʃat]	[tʃlaʃat]	rose (V)
[taʃaalaw]	[taʃaaluu]	[tʃaaluu]	come (you)
[ʃadʒara]	[ʃadʒara]	[ʃdʒara]	tree

Iraqi Dialects insert a vowel if an English word starts with CCC- as in [sitrætɪdʒɪ] in place of [strætɪdʒɪ] “strategy” and [sitrɪ:t] for [stri:t]. Kiparsky (2003) explores the syllabification patterns in different Arabic dialects, focusing on how syllables and moras interact. He divides Arabic dialects into

three main groups based on their syllable structures: VC-dialects, C-dialects, and CV-dialects. VC-Dialects include dialects from Syria, Lebanon, Iraq, and parts of Egypt. They are characterized by allowing complex syllable structures and geminate (double) consonants, particularly in initial positions. C-Dialects, found in North Africa (e.g., Moroccan, Tunisian), these dialects often permit long sequences of consonants and rely heavily on consonant clusters. CV-Dialects, such as Cairene (Egyptian Arabic), avoid complex consonant clusters and prefer syllables that begin with consonants and end with vowels (CV structures). Kiparsky discusses syllable structure across word boundaries or what he termed as mora-sharing syllables. In this paper, only monosyllabic QA words such as [qalb] “heart” and [fadʒr] “dawn” are discussed. These monosyllabic words have the following main types of syllables:

Watson (2007) points out that Arabic syllables generally follow a CV structure but allow for complex CVC or CVCC forms. Dialects differ in syllabification and VE, with variations reflecting distinct prosodic structures.

Hall (2011) points out that epenthetic vowel quality varies. Levantine Dialects (LDs) consistently use [i], showing "Fixed Vowel Quality," while Hijazi Dialect (HD) uses epenthetic vowels like [u], [a], or [i] depending on surrounding sounds i.e. "Context-Dependent Quality,". Epenthetic vowels can be shorter and more centralized than lexical vowels and may be phonetically distinct. In HD, epenthetic vowels [a] as [ð'ahar] “back”, [i] as in [ħamil] “conception or load” or [u] as in [bakur] “name of a person” or [mukur] “deception”. But these epenthetic vowels in HD are articulated as clearly as lexical vowels. Stress patterns may treat epenthetic vowels differently, particularly in LDs where stress might ignore them unless in specific contexts. Elashhab (2018) indicates that syncope and epenthesis in dialects like Omani and Iraqi Arabic show a "conspiracy effect," where both are governed by the same output constraints. However, Egyptian and Sudanese Arabic do not show this effect, as different constraints are governed by distinct output constraints, and the predicted conspiracy is not observed.

QA and YD are faithful to the original input which allows neither VE, anaptyxis nor syncope in monosyllabic words.

VE in CVCC syllable type:

Based on the data collected from Quran, hundreds of monosyllabic words show the following syllable patterns:

- 1- CV (Open Syllable) as in: [la] “no”, [ma] “what”, and [qi] “protect” imperative.
- 2- CVC (Closed Syllable) as in: [bal] “but”, [man] “who”, [ʔin] “if”, [ðuq] “taste”, [hab] “grant”, [ʕan] “about”, [dam] “blood” and [ʔax] “brother”.
- 3- CV+Glide [j] +C as in [kajl] “measure”, [sʕajd], and [sʕajf] “summer”.
- 4- CV+Glide [w] +C as in [sʕawm] “fasting”, [jawm] “day” and [lawh] “slate”.
- 5- CVCC (geminate) as in [ʕill] “resentment”, [rabb] “lord” and [ʕadd] “counting”. In all the above syllable types, VE is not permissible.
- 6- CVCC (2 coda consonants). It is consonant + vowel + double consonants (geminate). And in this type only, VE occurs between the final two consonants coda in the variety that allows VE as we will see in the Table (2).

Table (2)

VE in QA, YD and HD

	QA	YD	HD	meaning	AO	Type
(a)	[samʕ]	[samʕ]	[samʕ]	hearing	سَمْع	0/VE
	[naqsʕ]	[naqsʕ]	[nagsʕ]	shortage	نَقْص	
(b)	[makr]	[makr]	[mukur]	evil plan	مَكْر	VH
	[bukm]	[bukm]	[bukum]	dumb	بَكْم	
(c)	[fadʒr]	[fadʒr]	[fadʒur]	dawn	فَجْر	BV [u]
	[fadʕl]	[faðʕl]	[fadʕul]	favor	فَضْل	
(d)	[dʕahr]	[dʕahr]	[dʕahar]	back	ظَهْر	LV [a]
	[bahr]	Bahr	bahar	sea	بَحْر	
(e)	[witr]	[witr]	[witr]	odd number	وِتْر	HV [i]
	[sihr]	[sihr]	[sihir]	magic	سِحْر	

Table (2) displays CVCC monosyllabic words in QA compared to YD and HD. There is a one-to-one correspondence between QA and YD in prohibiting VE in all the above examples and similar ones as we will see later. On the other hand, HD allows all the candidates i.e., zero VE as in (a), two back vowels [u] are inserted in a vowel harmony process as in (b) back vowel [u] as in (c), low vowel [a] is inserted as in (d), and high vowel [i] is epenthesized as in (e).

Zero VE:

In the two words [samʕ], [naqsʕ], QA, YD and HD are in full agreement in avoiding VE. The reason why the two words [samʕ], [naqsʕ] have no VE can be explained in terms of the places of articulation of the codas of the two

words. It sounds a little uneasy to add a back vowel [u] between two codas where the first C or the second C is also back. The sound [ʕ] and [g] are back, which makes uneasy to add a back vowel to become *[samuʕ] and *[naguʕ]. The reasons can also be tracked back to some regional, sociolinguistic and contextual variability. Vowel harmony is also observed in the word [makr], which is produced as [mukur] in HD. The word [makr] is analyzed in the Tableau (1).

Tableau (1)

Vowel Harmony [makr] >> [makur] >> [mukur]

Candidates Input [makr]	*COMPLEX CODA	DEP_IO	IDENT-IO	MAX I-O
[makr]	!*			☑
[makir]		!*	!*	
[makur]		!*	!*	
[mukur]		!*	!*	

The word [makr] pronounced [makr] in QA and Yds without VE, while it is pronounced as [mukur] with a back vowel [u] epenthésized once in the onset and between the coda consonants [k] and [r] in a case of vowel harmony. The researcher has used Optimality Theory (OT) to determine which candidate is optimal by comparing markedness and faithfulness constraints.

Although the candidate [makr] violates the ComplexCoda constraint because it contains a consonant cluster in the coda (i.e., k and r), it is the optimal output in the QA and YD that allow complex codas of CC. In [makir] a front vowel [i] is inserted between [k] and [r], satisfying the ComplexCoda constraint by breaking up the cluster. However, this violates DEP-IO, as the vowel is not in the input. Since [i] is a front vowel, it satisfies IDENT-IO (back/front) in some dialects where front vowels are favored in this position as Levantine dialects. In HD [mukur] a back vowel [u] is inserted, also satisfying ComplexCoda but violating DEP-IO. Additionally, this candidate violates IDENT-IO (back/front) as front vowels in this position is preferable, making it less optimal than [makir].

The most optimal candidate is [makr], where neither the front vowel [i] nor the back vowel [u] is inserted between the consonants. This candidate best satisfies the constraints that are most crucial in QA and YD, avoiding the insertion of vowels. Although it violates COMPLEX CODA, this is a less costly violation compared to the alternative candidates.

In HD, where the word [makr] is pronounced [mukur], the presence of two back vowels [u]-one in the initial syllable and one epenthetic vowel between [k] and [r] can be explained by harmony or vowel agreement rules. HD may favor vowel harmony or vowel uniformity, where both syllables harmonize with a back vowel to ensure consistency in vowel quality throughout the word. This is especially relevant in dialects that tend to avoid mismatched vowel features (e.g., front-back differences). The use of two back vowels [u] in [mukur] is driven by a combination of ComplexCoda avoidance, a preference for back vowels, and possibly vowel harmony in HD. This explains why both the initial syllable and the epenthetic vowel are [u], as it ensures consistency and phonotactic well-formedness.

Epenthetic V [u]:

Table (3) shows the words that HD produce with inserting the vowel [u], and sometimes by inserting [u] twice in the two syllables in a case of vowel harmony.

Table (3)

VE with back vowel [u]

QA	YD	HD	meaning	A
jusr	jusr	jusur	ease	يُسْر
dʒuzʔ	dʒuzʔ	dʒuzuʔ	part	جُزْء
qasʕr	qasʕr	gasʕur	palace	قَصْر
ʔadʒr	ʔadʒr	ʔadʒur	reward	أَجْر
ðʕulm	ðʕulm	ðʕulum	injustice	ظُلْم
hukm	hukm	hukum	wisdom	حُكْم
nasʕr	nasʕr	nasʕur	help	نَصْر
kufr	kufr	kufur	disbelief	كُفْر
huzn	huzn	huzun	sorrow	حُزْن
misʕr	misʕr	masʕur	settlement	مِصْر
sʕadr	sʕadr	sʕadur	heart, chest	صَدْر
χumus	χums	χumus	fifth	خُمْس
rukʔn	rukʔn	rukun	corner	رُكْن
[sʕabr]	patience	sʕaubr	sʕabir	صَبْر
[sʕubh]	[sʕubh]	sʕubuh	morning	صَبْح

Epenthetic V [a]:

Table (4) shows the words that HD use the vowel [a] instead of [i] and [u].

Table (4)

VE with back vowel [a]

QA	YD	HD	meaning	A
ð ^h ahr	ð ^h ahr	d ^h ahar	back	ظَهْرٌ
s ^h aʁr	s ^h aʁr	s ^h aʁar	rock	صَخْرٌ
naʁl	naʁl	naʁal	palm trees	نَخْلٌ
lahm	lahm	laham	meat	لَحْمٌ
waʕd	waʕd	waʕad	promise	وَعْدٌ
ʕahd	ʕahd	ʕahad	pledge	عَهْدٌ
baʕd	baʕd	baʕad	after	بَعْدٌ
[difʔ]	[difʔ]	[dafaʔ]	warmth	دِفْءٌ

Epenthetic V [i].

In contrary to Levantine Dialects that allow consistently the epenthetic vowel [i], HD allows all the candidates and possibilities i.e. absence of VE, (b) insertion of the back vowel [u], (c) insertion of the high vowel [i] and insertion of the low vowel [a].

The Table (5) shows VE [i] in HD.

Table (5)

VE with high vowel [i]

QA	YD	HD	meaning	A
fas ^h l	fas ^h l	fas ^h il	decisive	فَصْلٌ
ðikr	ðikr	ðikir	mention	ذِكْرٌ
niʕm	niʕm	niʕim	blessed	نِعْمٌ
hizb	hizb	hizib	party	حِزْبٌ
sidr	sidr	sidir	lote trees	سِدْرٌ
qabl	qabl	gabil	before	قَبْلٌ
t ^h ifl	t ^h ifl	t ^h ifil	child	طِفْلٌ
s ^h idq	s ^h idq	s ^h idig	honor	صِدْقٌ
qatl	qatl	gatil	killing	قَتْلٌ
ʕilm	ʕilm	ʕilim	knowlege	عِلْمٌ

QA	YD	HD	meaning	A
milh	milh	milih	salt	مِلْح
?ibn	?ibn	?ibin	son	ابْن
sitr	sitr	sitir	shield	سِتْر
wazn	wazn	wazin	weight	وَزْن
ʕidʒl	ʕidʒl	ʕidzil	calf	عِجْل
Haml	haml	hamil	conception	حَمْل

Non-epenthetic words:

Monosyllabic words that do not allow VE in QA, YD and HD show the consistency I QA and YD and the flexibility in HD to accept all the possible candidates. The reasons of this flexibility is explained below:

Table (6)

words with zero VE

QA	YD	HD	meaning	A
[hasb]	[hasb]	[hasb]	enough	حَسْب
[kalb]	[kalb]	[kalb]	dog	كَلْب
[fard]	[fard]	[fard]	alone	فَرْد
[ʒalf]	[ʒalf]	[ʒalf]	successors	خَلْف
[nasj]	[nasj]	[nasj]	oblivion	نِسْي
[dʒahr]	dʒahr	dʒahr	declaration	جَهْر
baʕdʕ	baʕdʕ	baʕdʕ	some	بَعْض
fafʕ	fafʕ	fafʕ	even number	شَفْع
dʒamʕ	dʒamʕ	dʒamʕ	collective	جَمْع
Nafs	nafs	nafs	soul	نَفْس
?amr	?amr	?amr	order	أَمْر
Rizq	rizq	rizq	provision	رِزْق
ʕadl	ʕadl	ʕadl	justice	عَدْل
ruʕb	ruʕb	ruʕb	terror	رُعْب
fath	fath	fath	opening	فَتْح
wafd	wafd	wafd	delegation	وَفْد
?alf	?alf	?alf	thousand	أَلْف

QA	YD	HD	meaning	A
ʕabd	ʕabd	ʕabd	slave	عَبْدٌ
dʒiðʕ	dʒiðʕ	dʒizʕ	trunk	جِدْعٌ
wird	wird	wird	driven in thirst	وَرْدٌ
ʁasʕb	ʁasʕb	ʁasʕb	by force	عَصَبٌ
hadj	hadj	hadj	sacrificial animals	هَدْجٌ
fisq	fisq	fisq	bad conduct	فِسْقٌ
bint	bint	bint	girl	بِنْتُ
wadʒh	wadʒh	wadʒh	face	وَجْهٌ
qasʕd	qasʕd	gasʕd	aim	قَصْدٌ

To account for the historical and sociolinguistic variation in (HD), where the three vowels [a], [i] and [u] are used as VE, and sometimes the absence of VE altogether, we can think of some reasons as explained below:

- **Historical Migration and Settlements:** Hijaz, a hub with a history of diverse migrations, has hosted waves of settlers from Egypt, Syria, Palestine, Iraq, Yemen, Africa and other countries. These populations brought dialectal features from their regions, which influenced local speech patterns, including VE practices. YDs and some North African dialects, for instance, tend to avoid VE, which might account for why some Hijazi speakers use no VE in some words. Levantine dialects consistently prefer the insertion of [i] vowel which is also present in some HD words.
- **Influence of Arabic Dialectal Continuum:** HD lies within a larger dialectal continuum where shared characteristics-like VE occur in similar environments across dialects, especially in Levantine Dialects that prefer the insertion of [i] consistently in VE. The presence of Levantine or North African linguistic elements within HD might be due to sustained historical interaction with speakers from these regions.
- **Social Identity and Dialect Choice:** Sociolinguistically, variation in VE could serve as a social marker, potentially distinguishing individuals by heritage, social identity, or even neighborhood (urban vs. rural parts of Medina, for example. Speakers may adopt or avoid VE based on community norms or an inclination to sound closer to standard or other prestigious dialect forms.

- **Register and Contextual Variability:** Another angle to consider is that speakers may switch between forms depending on context, like [fas^ɪl] without VE if it means “decisive”, and with [i] VE [fas^ɪil] if it means “class”. It also depends on whether they’re speaking in a formal setting or more casual conversation. The word [rukⁿ] can be without VE if it means a military rank “staff colonel” رُكْن عقيد, and it is with [u] vowel epenthesis [rukun] if it means corner. Older generations or more conservative speakers might favor epenthesis-free forms like [hizb] and [ħizib], while younger speakers, influenced by urban dialect mixing, might employ VE more freely.

Analyzing these factors could provide insights into how historical migration patterns and social identity markers impact the variation within HD.

Meaning Shift of VE:

In Optimality Theory (OT), the Key Constraints are: DEP-V (Dep-Vowel), MAX-C (Maximize-Consonant), IDENT-IO (meaning), *Complex, UNIFORMITY (as in [ðanb] vs. [ðanab]). In the case of [ðanb], the insertion of a vowel to break up the final consonant cluster would violate DEP-V (since a new vowel is introduced). If VE occurs (resulting in [ðanab], the output could be confused with [ðanab] “tail”, which changes the meaning. This violates IDENT-IO (meaning).

Constraint Ranking will be as follows:

- 1- IDENT-IO (meaning) >> DEP-V: Meaning preservation is ranked highest to avoid the confusion between [ðanb] “sin” and [ðanab] “tail”.
- 2- MAX-C >> *Complex: The consonants must all be preserved, and the tolerance for clusters (even though *Complex is violated) is preferred over vowel insertion.
- 3- DEP-V is ranked high to prevent VE, ensuring that no extra vowel is added.

Tableau (2)
of the word [ðanb]

Candidates	IDENT-IO (meaning)	DEP-V	*Complex	MAX-C
[ðanb]	☑	☑	*	☑
[ðanab]	*	*	☑	☑
[ðanib]	*	*	☑	☑
[ðanub]	*	*	☑	☑

[ðanb] wins because it satisfies IDENT-IO and DEP-V, even though it violates *Complex (allowing a consonant cluster). [ðanab] loses because it violates IDENT-IO (meaning) and DEP-V, even though it avoids the consonant cluster.

Table (7) shows the change of meaning if a VE is inserted.

Table (7)

VE meaning shift

word w/oVE	meaning	word w/VE	meaning
tʻarf	eye	tʻaraf	party
barq	lightening	baraq	sparked
ʕarf	throne	ʕaraf	spread
harθ	cultivation	haraθ	plough
Xalf	behind	χalaf	compensation
sabq	race	sabaq	outrun
qarn	generation	qaran	coupled
qardʕ	loan	qaradʕ	criticized
lamh	glance	lamah	saw
Qalb	heart	qalab	turn over
laʕn	curse (n)	laʕan	cursed (v)
radʕʕ	rain	radʕaʕ	returned
dʕald	lashing	dʕalad	lashed

Words in QA, rarely used in Ads:

Some words exclusively used in QA are not commonly used in ADs such [mukθ] “slow”, [ðibh] “slaughtered goat”, [rahtʕ] “group of people”, [ʕasʕf] “eaten straw”, [χusr] “loss”, [dʕabh] “panting”, [qadh] “strike”, [ʕarq] “violence”, [naʕtʕ] “ease”, [sabh] swimming and thus the coda is CC in these words without VE.

Table (8) displays most of the words found in QA but less frequently in ADs.

Table (8)

QA words not used in ADs

word	Meaning	Ar	word	meaning	Ar
nusʕh	Advice	نصح	rahl	bag	رحل
zahf	March	زحف	baʕs	reduced price	بخس
dʕank	depressed	صنك	hidʕr	mind	حجر
humr	Red	حمر	wizr	burden	وزر
χamtʕ	bitter fruit	حط	mahd	bed	مهد

word	Meaning	Ar	word	meaning	Ar
rikz	Sound	رَكَزَ	?amt	elevation	أَمَتْ
ʃuqb	Outcome	عُقْبَ	radʒʃ	return	رَجَعَ
?imr	grave thing	إِمْرَ	sʔadʃ	crack	صَدَعَ
χubr	knowledge	خُبْرَ	kadh	labouring	قَدَحَ
nukr	deplorable thing	نُكْرَ	ʃihn	wool	عَهْنَ
ruhm	Mercy	رُحْمَ	muhl	murky oil	مُهِلَ
radm	Dam	رَدَمَ	χudʔr	green	خَضَرَ
qitr	molten copper	قِطْرَ	wiqr	load	وَقَرَ
naqb	penetration	نَقَبَ	?ifk	falsehood	إَفَكَ
ðarʃ	Uneasy	ذَرَعَ	ridʒz	foul nature	رَجَزَ
qistʔ	Justice	قِسْطَ	ʔulf	wrapped	غُلَفَ
rufd	right course	رُشْدَ	rawh	rest	رَوَّحَ
tʔawd	Mountain	طَوْدَ	ʔawl	bad effect	غَوَّلَ
tʔawl	Richness	طَوْلَ	rawh	rest	رَوَّحَ
sawʔ	evil nature	سَوَّءَ	ʃumj	blind	عَمِيَ
dʒund	Soldiers	جُنْدَ	ratʔb	moist	رَطَّبَ
?isʔr	bad burdens	إِصْرَ	qitʔʃ	portion	قِطَعَ
χitʔʔ	sin	خِطَأَ	zadʒr	push	زَجَرَ
ʃadn	gardens	عَدْنَ	hifðʔ	protection	حِفْظَ
ʔajðʔ	fury	غَيْظَ	χatʔf	snatch	خَطَفَ
tʔawʃ	willingly	طَوَّعَ	baʃl	husband	بَعَلَ
batʔʃ	vengeance	بَطْشَ	dʔajr	harm	صَبَّرَ
hadʔm	deprivation	هَضْمَ	hams	whisper	هَمَسَ
hazl	amusement	هَزَلَ	?aθl	tamarisks	أَثَلَ
naqʃ	dust	نَقَعَ	wadq	rain	وَدَقَ
ʃaʃr	Ten	عَشَرَ	tʔalʃ	fruit	طَلَعَ
ʃirk	partnership	شَرَكَ	hidʒr	forbidden	حَجَرَ
sʔarf	avert punishment	صَرَفَ	ridʒs	defilement	رَجَزَ
ʃirb	share of drink	شَرَبَ	himl	load	حَمَلَ
sʔihr	brother in law	صَهَرَ	?azr	strength	أَزَرَ

word	Meaning	Ar	word	meaning	Ar
χardʒ	fare	خرج	husn	good	حُسْن
karb	distress	كرب	fisq	bad conduct	فِسْق
dʒiðʕ	trunk	جَذْع	jusr	ease	يُسْر
ʕusr	hardship	عُسْر	hatm	inevitability	حَتْم

The reasons why specific words from Quranic Arabic may not appear in dialects could be due to simplification and phonological change for ease of communication. Some words may have developed a more specialized or religious meaning, making it less likely to appear in everyday conversation. Historical contact with other languages may have led to lexical borrowing and change. Certain Quranic terms are retained only in formal, religious, or literary contexts. Dialects, by contrast, are usually reserved for informal, day-to-day communication, where simpler or locally-specific vocabulary often takes precedence. A word that was common in Quranic Arabic might no longer resonate with the daily life or context of a particular community, so it's phased out in favor of more relevant terms.

Distinct VE patterns in QA and YD:

The words [θuluθ] “one third”, [rubuʕ] “quarter”, [sabuʕ] “lion” and [nahar] “river” are vowel epenthetic in QA and HD, while they are pronounced without VE in YDs [θulθ] [rubʕ] and [nahr]. In OT, the avoidance of *COMPLEX (CODA) >> outranks the insertion of a vowel (DEP-V). Therefore, VE is allowed if it helps break up clusters. SSP >> DEP-V: The Sonority Sequencing Principle is highly ranked, favoring smooth transitions between consonants and vowels. If inserting a vowel satisfies the SSP, it will occur even if it violates DEP-V. In the word [θuluθ], the Input [θulθ] (without epenthesis). The candidates are [θuluθ] (epenthesis occurs to break the cluster), [θuluθ] (no epenthesis), the winner is [θuluθ], since violating DEP-V (by inserting a vowel) is preferred over violating *COMPLEX and SSP. However, in YDs, VE is avoided even in cases where other dialects would insert a vowel. This suggests that faithfulness to the input is more highly valued in Yemeni dialects. DEP-V >> *COMPLEX CODA): In YDs, the prohibition against vowel insertion (DEP-V) is ranked higher than the need to avoid consonant clusters (*COMPLEX). This ranking means that even if clusters occur, inserting a vowel to break them up is disallowed.

MAX-C >> SSP: YDs prioritize keeping consonants intact (MAX-C) and tolerate more consonant-heavy clusters, even if they violate the SSP, as long as the original consonants are preserved. The winner is [θuluθ], since violating *COMPLEX (allowing a cluster) is better than violating DEP-V (inserting a vowel). Yemeni dialects tolerate the cluster rather than break it up.

In this way, the variation in VE between these dialects can be explained by how each dialect ranks the relevant constraints in OT.

Tableau (3)
of the word [θuluθ]

Candidates	SSP	Dep-V	*Complex	Max-C
[θuluθ] (QA, HD)	☑	*	☑	☑
[θulθ] (YDs)	*	☑	*	☑
[θuliθ] (LDs, ID)	☑	**	☑	☑

[θuluθ] in QA and HD satisfies the SSP and *Complex consonants, but it violates DEP-V due to the insertion of a vowel. [θulθ] in YDs, avoids vowel insertion and thus satisfies DEP-V, but it violates SSP and *Complex due to the consonant cluster. [θuliθ] in LD and ID satisfies SSP and *Complex, but violates DEP-V more significantly because it adds an additional vowel.

In (QA) [ruʃd] “right course” is pronounced without VE if it is a noun, but it is produced with a VE if it is an adjective, [rafad]. Also, the word [nusʰub] with a VE between [sʰ] and [b] means an erected idol, while [nusʰb] without a VE after [sʰ] means hardship. The word [nukr] “terrible hardship” in Surat Altalaq comes without VE, while it is pronounced with VE [nukur] in surat alqamar.

Conclusion:

Syllable structure of monosyllabic Quranic words are: CV, CVC, CV+Glide [j] +C, CV+Glide [w] +C, CVCC (geminate) and CVCC. VE is only entertained in the last type CVCC. QA and YDs generally resist vowel epenthesis (VE), preserving original consonant clusters, while HD favors VE to simplify syllable structures and avoid complex clusters. VE is allowed almost 0% in YD, 5% in QA, and 90% in HD, highlighting significant differences in epenthesis tolerance across these dialects. HD tends to allow all candidates by inserting no vowel, inserting back vowel [u], inserting low vowel [a] and inserting high vowel [i]. Unlike other dialects such as Levantine Dialects that may favor [i] for VE, HD inserts all three vowels [a],

[i], and [u], showing a flexible approach to epenthesis. The reasons of this flexibility in HD can be traced back to historical migration and settlements influence of Arabic dialectal continuum, social identity and dialect choice and register and contextual variability. In YDs and QA, faithfulness constraints (e.g., DEP-V, preventing vowel insertion) are ranked higher than markedness constraints, keeping consonant clusters intact and resisting epenthesis. Both QA and YDs demonstrate a historically conservative phonology, maintaining complex codas similar to Classical Arabic without inserting vowels. Geographic and cultural isolation in Yemen helped preserve a phonological system akin to Classical Arabic, minimizing VE in YDs as Yemeni speakers view preserving Classical Arabic phonology as part of their linguistic heritage, avoiding VE as a marker of cultural identity. HD's Historical Influences: Hijaz, as a trade and pilgrimage hub, saw linguistic influences from Levantine, Egyptian, North African, Sudanese and other dialects, which likely introduced epenthetic patterns to HD over time. Non-epenthetic forms in Classical Arabic hold high prestige, reinforcing faithfulness constraints in QA and YDs, while HD reflects a more adaptive, epenthesis-tolerant approach due to regional influences. The study is limited in scope as it focuses exclusively on monosyllabic words, thereby excluding polysyllabic words that may also exhibit significant phonological or linguistic features relevant to the VE analysis. Additionally, VE across word boundaries was not considered, which could have provided valuable insights into connected speech patterns and their impact on word-final structures. The analysis is further restricted to two dialects: YD and HD compared to QA. Other dialects, such as North African dialects, Iraqi dialects, Levantine dialects, and Arabic Gulf dialects were not discussed despite the possibility of these dialects sharing phonological characteristics with either YD or HD. This narrow focus limits the generalizability of the findings to the broader spectrum of Arabic dialects.

Recommendations for Future Research:

- 1- Future studies could involve a larger and more diverse group of speakers to capture both inter-speaker and intra-dialectal variation in vowel epenthesis.
- 2- Comparative work could be extended to Levantine, Gulf, and North African Arabic varieties to provide a broader picture of cross-dialectal patterns.
- 3- While wordlist reading provides controlled environments, analyzing natural conversational speech could yield insights into how epenthesis operates in less monitored contexts.

- 4- Acoustic and articulatory studies could measure the duration, quality, and placement of epenthetic vowels across dialects to provide fine-grained phonetic evidence.
- 5- Applying modern phonological frameworks (e.g., Optimality Theory, CV Phonology, Government Phonology) could help explain why some dialects allow epenthesis in certain environments while others avoid it.
- 6- Future work may explore whether contact with other languages (e.g., English, Turkish, Persian, or African languages in Yemen and Hijaz) has influenced epenthesis patterns.

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Appendix A: VE Data

No	QA	meaning	Ar	No	QA	meaning	Ar	No	QA	meaning	Ar
1	[samʕ]	hearing	سَمْع	39	[fadʒr]	dawn	فَجْر	77	[sajr]	(travel)	سَيْر
2	[naqsʕ]	shortage	نَقْص	40	[kajl]	(measure)	كَيْل	78	[sʕajf]	(summer)	صَيْف
3	[makr]	evil plan	مَكْر	41	[sʕajd]	(hunting)	صَيْد	79	[ɣawf]	(fear)	خَوْف
4	[fadʕl]	favor	فَضْل	42	[bajʕ]	(sale)	بَيْع	80	[wajl]	[woe]	وَيْل
5	[sʕabr]	patience	صَبْر	43	[ʕajn]	(spring)	عَيْن	81	[dʕajf]	(guest)	صَيْف
6	[sʕubh]	morning	صَبْح	44	[ʕajb]	unseen	غَيْب	82	[ʕajðʕ]	(fury)	غَيْط
7	[bajdʕ]	eggs	بَيْض	45	[ʕajr]	other	غَيْر	83	lawh	slate	لَوْح
8	[zajd]	zaid	زَيْد	46	[dʒahr]	loud	جَهْر	84	sʕawt	sound	صَوْت
9	[ʕajθ]	rain	غَيْث	47	baʕdʕ	some	بَعْض	85	sʕawm	fasting	صَوْم
10	[tʕajr]	bird	طَيْر	48	ʕafʕ	even number	شَفَع	86	mawdʒ	waves	مَوْج
11	[bajt]	house	بَيْت	49	dʒamʕ	collective	جَمْع	87	mawt	death	مَوْت
12	[ɣajr]	good	خَيْر	50	naʕs	soul	نَفْس	88	ʕawb	mixture	شَوْب
13	fawdʒ	regiment	فَوْج	51	ʔamr	order	أَمْر	89	jawm	day	يَوْم
14	qawl	statement	قَوْل	52	rizq	provision	رِزْق	90	zawdʒ	pair	زَوْج
15	[difʔ]	worm	دَفء	53	ʕadl	justice	عَدْل	91	fawz	success	فَوْز
16	[hasb]	enough	حَسْب	54	ruʕb	terror	رَعْب	92	wird	driven in thirst	وَرْد
17	[kalb]	dog	كَلْب	55	fath	opening	فَتْح	93	ʕasʕb	by force	غَضَب
18	[fard]	one	فَرْد	56	wafd	delegation	وَفْد	94	hadj	sacrificial animals	هَدْي
19	[hatm]	certain	حَتْم	57	ʔalf	thousand	أَلْف	95	[nasj]	forgotten	نَسِيَ
20	[ɣalf]	generation	خَلْف	58	ʕabd	slave	عَبْد	96	dʒuzʔ	part	جُزء
21	bint	girl	بِنْت	59	qabl	before	قَبْل	97	qasʕr	palace	قَصْر
22	wadʒh	face	وَجْه	60	tʕifl	child	طِفْل	98	ʔadʒr	reward	أَجْر
23	qasʕd	aim	قَصْد	61	sʕidq	honor	صِدْق	99	ðʕulm	injustice	ظَلْم
24	sidr	lote trees	سِدْر	62	qatl	killing	قَتْل	100	hukm	wisdom	حُكْم
25	rukʕn	corner	رُكْن	63	ʕilm	knowledge	عِلْم	101	nasʕr	help	نَصْر
26	ðʕahr	back	ظَهْر	64	milh	salt	مِلْح	102	kufr	disbelief	كُفْر
27	sʕaʒr	rock	صَخْر	65	ʔibn	son	ابْن	103	huzn	sorrow	حُزْن
28	bahr	sea	بَحْر	66	hadʕm	deprivation	هَضْم	104	misʕr	settlement	مِصْر
29	naʒl	palm trees	نَخْل	67	sitr	shield	سِتْر	105	sʕadr	chest	صَدْر
30	lahm	meat	لَحْم	68	wazn	weight	وِزْن	106	ɣumus	fifth	خُمْس
31	waʕd	promise	وَعْد	69	ʕidʒl	calf	عِجْل	107	fasʕl	decisive	فَصْل

No	QA	meaning	Ar	No	QA	meaning	Ar	No	QA	meaning	Ar
32	ʕahd	pledge	عَهْدٌ	70	haml	conception	حَمْلٌ	108	ðikr	mention	ذِكْرٌ
33	baʕd	after	بَعْدٌ	71	nusʕh	advice	نَصَحٌ	109	witr	odd number	وَيْتْرٌ
34	[rikz]	Sound	رَكْرَ	72	zahf	advancing in force	زَحْفٌ	110	sihr	magic	سِحْرٌ
35	[ʕuqb]	Outcome	عُقْبٌ	73	[dʕank]	(depressed life)	صَنْكٌ	111	niʕm	blessed	نِعْمٌ
36	[ʔimr]	grave thing	إِمْرٌ	74	[humr]	red	حُمْرٌ	112	hizb	party	حِزْبٌ
37	[xubr]	knowledge	خُبْرٌ	75	[xamtʕ]	bitter fruit	خَمَطٌ	113	[mahd]	bed	مَهْدٌ
38	[nukr]	(deplorable thing)	نُكْرٌ	76	[sʕadʕ]	crack	صَدْعٌ	114	[ʔamt]	elevation	أَمْتٌ
N0.	QA	meaning	Ar	No	QA	meaning	Ar	No	QA	meaning	Ar
115	[ruhm]	mercy	رُحْمٌ	134	[kadh]	labouring	قَدَحٌ	154	[radʕʕ]	return	رَجْعٌ
116	[radm]	dam	رَدْمٌ	135	[ʕihn]	wool	عُهْنٌ	155	[ðarfʕ]	Uneasy	ذَرْعٌ
117	[qitr]	molten copper	قِطْرٌ	137	[muhl]	murky oil	مُهْلٌ	156	[qistʕ]	justice	قِسْطٌ
118	[naqb]	penetration	نَقَبٌ	138	[xudʕr]	green	خُضْرٌ	157	[rufd]	right course	رُشْدٌ
119	rawh	rest	رَوْحٌ	139	[wiqr]	load	وَقْرٌ	158	tʕawd	towering mountain	طَوْدٌ
120	ɤawl	bad effect	عَوْلٌ	140	[ʔifk]	falsehood	إِفْكٌ	159	tʕawl	richness	طَوْلٌ
121	rawh	rest	رَوْحٌ	141	[ridʕz]	foul nature	رَجَزٌ	160	sawʔ	evil nature	سَوَاءٌ
122	ʕumj	blind	عُمِيٌّ	142	[ɤulf]	wrapped	غُلْفٌ	161	dʕund	soldiers	جُنْدٌ
123	ratʕb	moist	رَطْبٌ	143	ʕadn	gardens	عَدْنٌ	162	ʔisʕr	bad burdens	إِصْرٌ
124	qitʕʕ	portion	قِطْعٌ	144	bukm	dumb	بُكْمٌ	163	[xitʕʔ]	sin	خِطْأٌ
125	zadʕr	push	زَجَزٌ	145	batʕʕ	vengeance	بَطْشٌ	164	sʕarf	avert punishment	صَرْفٌ
126	hiföʕ	protection	حِفْظٌ	146	hazl	amusement	هَزْلٌ	165	firb	share of drink	شَرْبٌ
127	xatʕf	snatch	خَطْفٌ	147	naqʕ	dust	نَقْعٌ	166	sʕihr	brother in law	صَهْرٌ
128	baʕl	husband	بَعْلٌ	148	ʕafr	ten	عَشْرٌ	167	xardʕ	fare	خَرْجٌ
129	ʔa0l	tamarisks	أَثَلٌ	149	firk	partnership	شَرْكٌ	168	[karb]	distress	كَرْبٌ
130	wadq	rain	وَدَقٌ	150	tʕalʕ	fruit	طَلْعٌ	169	hams	whisper	هَمْسٌ
131	ridʕs	defilement	رَجَزٌ	151	baxʕ	reduced price	بَخْشٌ	170	rahl	bag	رَحْلٌ
132	ʕafr	ten days	عَشْرٌ	152	[hidʕr]	mind	حِجْرٌ	171	wizr	burden	وِزْرٌ
133	himl	Load	حَمْلٌ	153	[ʔazr]	strength	أَزْرٌ	172	[karb]	grief	كَرْبٌ