

Vocalic Elision in Iraqi Arabic: Evidence From the Applicability of the Output Generating Schemes

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Abstract :

This paper is concerned with a detailed description and analysis of vocalic elision in the Iraqi Arabic . The variety investigated in this article is Basra Iraqi Arabic since it is the native dialect of the researcher. It is spoken in the southern part of Iraq- in the city of Basra- by educated and non-educated speakers alike. It has its own lexical and phonological peculiarities which render it a distinct variety among different speakers of Iraqi Arabic. The analysis of the available data via deletion generative rules and Optimality Theory candidate evaluation scheme (in terms of generative phonology) suggests that vocalic elision in Iraqi Arabic has a crucial efficacy on syllabic phonotactics, syllabification, and sonority profiling. Reduction of the original syllables and reconcatenation of phonemes are distinctly traceable. Vocalic segments show identical phonetic contexts within historical elision, while context variation is tangibly elicited within connected speech elision. In Optimality terms, three competing faithfulness constraints are operating to screen the input candidate. These are DEP, IDEN, and MAX constraints. The first two are eliminated from further consideration since they are highly ranked. The only surviving constraint is MAX (no deletion) which is lowest-ranked. It has been proven that it is the predominant constraint that generates the surface elided forms. To no surprise, it has been unveiled that markedness constraints have null competing role in generating the optimal phonetic outputs.

Key Words

elision, phonotactics, sonority, candidate, constraint, optimal

حذف الصوائت في اللهجة العراقية عبر استخدام طرائق توليد المخرجة

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المستخلص:

تعنى هذه الدراسة بوصف وتحليل مفصلين الخاصة بحذف الصوائت في اللهجة العراقية - البصرية كونها تمثل اللهجة الأم للباحث. ويستخدم هذه اللهجة في جنوب العراق، في مدينة البصرة المثقفون وغير المثقفين على حد سواء. ولهذه اللهجة خصائصها المفرداتية والصوتية التي جعلتها لهجة متميزة بين مختلف المتحدثين بها.

توصل الباحث من خلال تحليل البيانات المتوفرة، باستخدام قواعد توليد الحذف وطريقة تقييم المخرجة التي تتبعها نظرية المخرجة الصحيحة (Optimality Theory)، في سياق النظام الصوتي التوليدي، بأن لحذف الصوائت في اللهجة العراقية تأثيراً ملموساً على الاحتمالية التوزيعية للوحدات الصوتية (phonotactics) والتقطيع والسلم الرنيني. ومن التأثيرات الواضحة الأخرى هي تقليل عدد المقاطع الصوتية وإعادة دمج الوحدات الصوتية. وقد كان هناك تماثل لسياقات الحذف التاريخي، في حين تميز حذف الصوائت في الكلام المتصل بتباين واضح في السياقات. وفي اطار نظرية المخرجة الصحيحة، كانت هناك ثلاثة محددات تطابق تنافسية (constraints) (faithfulness) والتي تتنافس بينها لأختبار المدخلة الصوتية، وهي محددات دب (DEP) (عدم السماح بالأقحام)، ايدن (IDEN) (ضرورة تطابق الصفات الصوتية بين المدخلة والمخرجة) و ماكس (MAX) (عدم السماح بالحذف). وقد تم استبعاد المحددين الأولين من اية اعتبارات تحليلية كونهما يتميزان بتدرج عال. وقد تبين بأن المحدد المتحكم الوحيد بالحذف هوالمحدد ماكس كونه يتميز بأدنى مستوى من التدرج. وبتعبير آخر، فقد استنتج بأن المحدد المذكور هو المسؤول عن توليد الأشكال النطقية المتضمنة الحذف الصوتي. ومن النتائج الملفتة للنظر، عدم تسجيل أي دور لمحددات الصعوبة (markedness constraints) في توليد المخرجة الصوتية الصحيحة.

الكلمات المفتاحية: الحذف، الاحتمالية التوزيعية، الرنين، المخرجة المرشحة، المحدد، المخرجة الصحيحة

1- Introduction

Speakers of a language often tend to convey their message with the least possible articulatory effort. Except when they are striving for clarity of articulation, they show a preference to produce utterances with a large number of coarticulations (assimilations), with some segments left out, and with the differences between other segments reduced to the minimum. Producing utterances in this way requires a speaker to adopt the principle of ease of articulation. The principal way of reducing articulatory effort is by implementing the strategy of coarticulations between sounds, resulting in languages change (Ladefoged, 1993: 267).

The most extreme cross-linguistic phonological process is the complete elision of segments both in the citation form and in phrasal context. In English, for example, a vowel very commonly surfaces null in word-medial position . This process is referred to as syncope , leading to medial consonant clusters, some of which are sometimes non-optimal (illegal) ones. Syncope is found in English in reduced forms such as /evri/ " every", /fæmli/ " family", /defsit/ " deficit ".

In phrasal context, deletion of the initial vowel of some English words (often referred to as aphasis or apheresis) is also elicited. This process has been registered in Greek-based terms as in " way cool", " way over the mountain" (derived from the deletion of the initial schwa in "away" (itself derived historically from the word way with prefix). Similar instances are found in Shakespearean phrases such as " pon my word" (from upon), and "tis" from "it is" (Nathan, 2008: 80).

From a generative perspective (in terms of phonological universals), (Hyman, 1975: 14) states that vowels surface as zero in some languages such as French due to the operation of deletion rules. The example he quotes is [la fne:tr]" the window" for [la fəne:tr]. However, he concludes that the application of such a rule is optional due to the fact that the full form might also be used by native speakers in certain contexts.

McMahon (2002:128-129) reports that the bulk of segmental phonological processes are characteristic of rapid and casual speech, and often are referred to as connected speech processes (CSPs). These

generally involve either assimilation or reductions. These two processes, he elaborates, are natural outcomes of talking more quickly and perhaps less carefully. Most CSPs are also optional, and will tend to be suspended or at least occur less frequently in more formal situations and in slower (careful) speech. With reference to vocalic elision, he maintains that in fast speech, vowels do not only reduce to weak ones, but they are deleted. In certain cases, the outcome is an ill-formed (non-optimal) consonant clustering that violates the phonotactics of English such as /knekt/ for /kənekt/ and /pteitəu/ for /pəteitəu/ where the merging of /kn/ and /pt/ is impermissible.

As a linguistic phenomenon, elision in Arabic has been traditionally approached in relation to morphology and syntax where certain segments surface null for morphological and syntactic purposes, most notably affixation and negation. However, old Arab grammarians (e.g. Sibawayhi, 753-793 A.D.; Ibn-Jinni, 944-1014,A.D.) investigated elision as a phonological process under different headings such as emphatic sounds, pausal forms, and disappearance of the glottal stop.

Elision in Arabic has been interpreted in terms of the global tendency towards ease of articulation, speech tempo, and casualness of speech (cf. Al-Antaki, 1969; Anis, 1973; Johnstone, 1982; Holes, 1984). Anis (ibid.) and Al-Jundi,1978), for instance, quoted many examples of the co-occurrence of consonantal and vocalic reductions as elicited in the dialects of many old Arab tribes, e.g./xaradztu mil masdzid / "I left the mosque", /xaradztu middaar/, " I left the house" /rakibtu 9al faras / " I rode on the horse" instead of the full forms /xaradztu minal masdzid/, /xaradztu minal daar/, and /rakibtu 9alal faras/.

To consider vocalic elision, (Gairdner, 1925) states that colloquial Arabic, as compared to the classical form, is characterized by speech contraction to a much further point. This results in dropping short vowels and shortening the long ones. On the other hand, he notes that classical Arabic licenses intrusive vowels to a much further point in comparison with colloquial Arabic.

Iraqi Arabic (IA), as is the case of different Arabic dialects, is characterized by the disappearance of vocalic and consonantal

segments in citation form and in phrasal context. In certain contexts, complete syllables surface null as a result of this process. The most traceable efficacy of elision on IA internal word structure is that it militates segments phonotactics, syllabification, and sonority profiling leading in many cases to ill-formed consonant clustering and changing the original syllabic concatenation. This can be arrived at by examining the flouting of Sonority Sequencing Principle (SSP) as it is a universal parameter that governs and regulates phonemes concatenation (cf. Geirut,1999; Al-Tamimi and Al-Shboul,2012; Hauser,2013 and Parker, 2013 among many others)

The present study is confined to investigating vocalic deletion in IA. The available data will be subjected to a generative analysis via applying generative rules and candidate evaluation scheme as proposed by the optimality theory(OT). Both historical and contextual vocalic elision will be examined in terms of these two schemes. The variety chosen (earlier stated in the abstract) is Basra Iraqi Arabic (BIA), mainly spoken in the centre of Basra city. Other sub-dialects (including rural ones) are excluded. Types of reductions that militate consonantal segments and complete syllables are outside the scope of this paper.

2- The Place of Elision in Generative Phonology

Earlier generative theories since the late nineteen fifties, as it was the tack of most contemporary theories, view phonological structures in the framework of process-oriented vision (the so called "factory metaphor"). Traditionally, it has been assumed that the input to the phonology of language is an underlying form or a chain of phonemes. This form is treated by a series of phonological processes (P-T rules) to generate the adjusted phonetic output, in a similar way as a car being manufactured in an assembly-line fashion of factory. By virtue of the transformational rules, phonological processes such as nasalization, deletion, insertion, aspiration emerge (cf. Hyman, 1975; Dell, 1980).It was strongly believed that phonological rules are explicitly ordered and that children are left with a double-task learning, to acquire both the rules and their correct ordering (Nathan,2008: 144).

Concerning the applicability of deletion rules to the phonological input, Hyman (op.cit.:12) states that the elided forms are converted via

optional rules since it is possible for the same speaker to pronounce two alternative forms, the full form and the reduced one. He cites the French example (earlier mentioned in the introductory section) /la fəne:tr/ " the window " (elicited in slow speech) and /la fne:tr/ (in rapid or allegro speech).

Such a variation in pronunciation led some phonologists in the nineteen seventies to argue that a grammar with rules applying in feeding order gives exactly the same output as the one with rules operating without any constraints at all. Stated otherwise, feeding order is equivalent to no ordering restrictions. Nathan (op.cit.) argues for this proposal and cites an evidence from American English. He observes that the free variation with flaps and with null (deleted) flaps in this dialect clearly points in the direction of permitting two optional P-rules that operate side by side. This is usually interpreted in terms of dialectal or stylistic variations.

A complete different phonological trend was advocated by OT which strongly argues against the serial derivations (factory metaphor). Lakoff (1993), for example, falsifies the idea of the serial sequencing of phonological rules and affirms that cognitive phonology should not countenance them.

The major point of difference between OT and other generative theories of phonology lies in the issue of levels. OT proposes only two levels, the underlying form and the surface form. Optimacists assume that the underlying forms are stored in the competence, and that an abstract mechanism called GEN (the " Generator") which flows out a theoretically infinite number of alternative pronunciations for the underlying targets. These alternatives are called candidates that are simultaneously evaluated by two categories of constraints, markedness and faithfulness constraints by a mechanism known as EVAL (the " Evaluation"). The candidate that violates the fewest constraints is the correct (optimal) output. In the process of elision, the faithfulness constraint MAX (no deletion) is the only one that wins when it scores the lowest ranking. (Prince and Spolsky, 2004).

3- Data Sources

The corpus of data on which this paper is constructed is the outcome of the researcher's intuitive knowledge, being a native speaker of the variety under study, his own observations and communications through everyday natural discourse. Other portions of the corpus are collected from a survey of a previous work conducted on IA, "A Dictionary of Iraqi Arabic" compiled by Woodhead and Beene, 1967. For authenticity, tape recordings of conversational speech of three different educational groups are conducted. The informants involved are (4) elderly uneducated speakers, six half-educated speakers, and (17) university students. The corpus has been classified, transcribed and translated (see appendix 2).

4- Research questions

This study attempts to explore the following research questions: (i) What are the vocalic segments that are subsumed to the process of elision in IA and in which phonetic contexts?, (ii) How do the generative rules operate to produce the elided outputs?, What are the traceable phonological efficacies resulting from elision?, (iv) To what extent is the OT candidate evaluation scheme is applicable?, and (v) What are the constraints that compete to generate the optimal outputs?

5- The Phonology of Iraqi Arabic

IA phonology licenses three short vowels, / i, a, and u/, and five long vowels /i:, ee, aa,oo, and uu/. Consonantal phonemes are 32 :10 plosives /p, b, t, ʈ, d, ɗ, k, g, q, ʔ/, 13 fricatives /f, ʃ, ʈ, ʢ, s, ʂ, z, ʒ, x, ǧ, ħ, ʕ, h/, 2 affricates /tʃ, dʒ/, 2 nasals /m, n/, 2 laterals /l, ɭ/, 1 flap /r/, and 2 approximants /w, y/ (see appendix 1 for a detailed description).

Consonantal and vocalic phonemes in IA concatenate in eleven syllabic patterns. These are /cv/ as in /si ma/" sky", /ccv/ as in /nxala/ " a date palm" (rarely used in BIA as in/ nfa9al/" he became angry" , /cvv/ as in /raatib/ " salary", /ccvv/ as in /flaaħa/ " farming", /cvc/ as in /sim sim/ " sesame", /ccvc/ as in /traffa9/ " he has been promoted", /cvcc/ as in /bandʒ/ " anesthetic", /cvvc/ as in /raaħ/ " he has left", /cvvcc/ as in /dʒaarr/ " neihbour", /ccvvc/ as in /9gaal/ " headband", and /ccvcc/ as in /ʃfarr/ " he has turned yellow".

6- A Generative Analysis of Vocalic Elision in IA

6.1 Historical Vocalic Elision

This section is dedicated to a generative treatment of vocalic elision as elicited in citation form of IA. Put differently, an application of transformational rules is conducted on IA individual lexemes (lexical elision) where the standard forms of these lexemes have been adapted via vocalic deletion rules. The resulted optimal forms have been preserved to be a part of the historical sound change of IA lexical items. Precisely, the deleted form has retained itself as the dictionary form of IA vocabulary during the historical path of this Arabic variety.

- (1) [- long] \rightarrow \emptyset / [+ obstruent] _____ [+ obstruent]
V

This rule deletes the short front vowel /i/ between two obstruents. The corpus of data offers us with some representative examples: between the plosive obstruent /b/ and the fricative obstruent /j/ as in /bjaara/ "pleasing news" for /bijaara/, between the affricate obstruent /dʒ/ and the plosive obstruent /b/ as in /dʒbaal/ "mountains" instead of /dʒibaal/, between the fricative obstruent /f/ and the plosive obstruent /t/ like /ftaat/ "crumbs, pieces" for /fitaat/.

- (2) [- long] \rightarrow \emptyset / [+ obstruent] _____ [+ sonorant]
V

Rule no. (2) states that a short vowel is dropped between an obstruent and a sonorant. The short front vowel /i/ is elided in such a context. The examples below illustrate the applicability of this rule: between the affricate obstruent /dʒ/ and the nasal sonorant /m/ as in /dʒmaal/ "camels" for /dʒimaal/, between the fricative obstruent /ð/ and the approximant sonorant /r/ like /ðraa9/ "arm" instead of /ðiraa9/.

- (3) [- long] \rightarrow \emptyset / [+ sonorant] _____ [+ obstruent]
V

According to this rule, a short vowel surfaces empty between a sonorant and an obstruent. The short front vowel /i/ is lost in such a context as the examples below show: between the nasal sonorant /n/ and the fricative obstruent /j/ as in /njaara/ "sawdust, wood shaving"

for /niʃaara/, between the approximant sonorant /r/ and the obstruent plosive /ʃ/ like /rʃaaʃ/ "bullets" for /riʃaaʃ/.

(4) [- long] →∅ / [+ sonorant] _____ [+ sonorant]
 V

This rule deletes a short vowel between two sonorants. The short front vowel /i/ is lost in such a position between the approximant sonorant /w/ and the lateral approximant /l/ as in /wlaaya / "city" for /wilaaya/.

(5) [- long] →∅ / [+ obstruent] _____ [+ obstruent]
 V

This rule applies to the short central vowel /a/ where it is dropped between two obstruents in citation form. The following are representative examples: between the plosive obstruent /t/ and the fricative obstruent /ʃ/ as in /tʃaaʔam/ "he felt pessimistic" for /taʃaaʔam/, between the fricative obstruent /ʒ/ and the affricate obstruent /dʒ/ as in /ʒdʒaayiz/ "elderly women" instead of /ʒadʒaaʔiz/.

(6) [- long] →∅ [+ sonorant] _____ [+ obstruent]
 V

Rule (6) involves the deletion of the short central vowel /a/ between a sonorant and an obstruent. The following examples are good case in point: between the nasal sonorant /m/ and the fricative obstruent /f/ as in /mfaatiiħ/ "keys" for /mafaatiiħ/, between the nasal sonorant /m/ and the fricative obstruent /θ/ like /məaaqiil / "weight, ounces" for /maəaaqiil/.

7- [- long] →∅ / [obstruent] _____ [sonorant]
 V

This deletion rule surfaces the short central vowel /a/ between an obstruent and a sonorant. Selective contexts of such optimal outputs are: between the fricative obstruent /x/ and the lateral sonorant /l/ as in /xlaal/ "crisp and not yet ripped date" for /xalaal/, between the fricative obstruent /x/ and the nasal sonorant /n/ like /xnaaziir/ "pigs" for /xanaaziir/.

8- [- long] →∅ / [+ sonorant] _____ [+ sonorant]
 V

This rule denotes the deletion of the short central vowel /a/ when it occurs between two sonorants. The examples elicited in the corpus are /wliima/ "dinner" for /waliima/, where deletion surfaces between the approximant sonorant /w/ and the lateral sonorant /l/, /yluum/ "to blame" for /yaluum/, in which the deletion rule operates between the approximant sonorant /y/ and the lateral approximant /l/.

9- [- long] →∅ / [+ obstruent] _____ [obstruent]
 V

Rule no. (9) operates on the deletion of the short back vowel /u/ between two obstruents. This rule is a part of the general tendency of dropping the short vowel in IA between two obstruents. The examples quoted are: between the plosive obstruent /b/ and the fricative obstruent /x/ such as /bxuur/ "incense" for /buxuur/, between the plosive obstruent /t/ and the fricative obstruent /ʃ/ as in /tʃalliħ/ "you repair" for /tuʃalliħ/.

(10) [- long] →∅ / [+ obstruent] _____ [+ sonorant]
 V

The short back vowel /u/ is elided in the environment where it is preceded by an obstruent and followed by a sonorant. The set of data that represents such an environment are the examples below: between the plosive obstruent /t/ and the approximant sonorant /r/ such as /traahin/ "to gamble" for /turaahin/, between the plosive obstruent /d/ and the approximant sonorant /y/ such as /dyuun/ "debts" for /duyuun/.

(11) [- long] →∅ / [+ sonorant] _____ [+ obstruent]
 V

Rule (11) accounts for the loss of the short back vowel /u/ between a sonorant and an obstruent. The contexts quoted are the following: between the approximant sonorant /r/ and the fricative obstruent /f/ as in /rfuuf/ "shelves" for /rufuuf/, between the nasal sonorant /n/ and the fricative obstruent /ð/ as in /nðuur/ "sacrificial offerings to God" instead of /nuðuur/.

(12) [- long] →∅ / [+ sonorant] _____ [+sonorant]
 V

Next, this deletion rule accounts for the elision of the short back vowel /u/ between two sonorants. The following examples are good case in point: when preceded by the approximant sonorant /r/ and followed by the nasal sonorant /m/ as in /rmuʊ/ "eyelids" instead of /rumuʊ/, when preceded by the approximant /y/ and followed by the nasal /n/ such as /ynabbih/ "to notify" for /yunabbih/.

6.2 Contextual Vocalic Elision

Vowels in IA are also dropped in phrasal contexts. What follows is a survey of the environments where such a type of elision occurs.

1- [- long] → ∅ / [+obstruent] _____ [+ obstruent]
 V

This rule illustrates that a short vowel is elided in IA between two obstruents. The relevant corpus reveals that the short high front vowel /i/ is dropped between the plosive obstruent /b/ and the fricative obstruent /ʒ/ as in /min bʒiid/ "distantly" for /min biʒiid/, between the fricative obstruent /ʒ/ and the plosive obstruent /d/ as in /ga:ʒ yiqra/ "he is reading" for "/ga:ʒid yiqra/, between the plosive obstruent /b/ and the fricative obstruent /z/ as in /xubz ʒiir/ "barely bread" for /xubiz ʒiir/, between the plosive obstruent /ʔ/ and the fricative obstruent /ħ/ as in /nabbaxtak/ "by your conscience, for God's sake" instead of /ʔihnaʔibbaxtak /, between the plosive obstruent /ʔ/ and the affricate obstruent /dʒ/ as in /ma:dʒa/ "he has not come" for /ma: ʔidʒa/, between the plosive obstruent /b/ and the fricative obstruent /s/ as in /labsoo/ "they let him put on" for /labbisooħ/, between the glottal plosive obstruent /ʔ/ and the fricative obstruent /x/ as in /xwaan aħmad "Ahmed 's brothers"/ for /ʔixwaan aħmad/.

2- [- long] → ∅ / [+ obstruent] _____ [+ sonorant]
 V

Rule (2) deletes a short vowel between an obstruent and a sonorant. The short high front vowel /i/ disappears between the fricative

obstruent /ə/ and the lateral sonorant /l/ as in /miəlilawwal/ (*) " as before, like the first" for /miəil ?il ?awwal/. The same short vowel is also dropped between the plosive obstruent /g/ and the lateral sonorant /l/ as in /gitlak di:r ba:lak / " I told you to take care " for /gilitlak di:r ba:lak/, between the pharyngeal fricative obstruent /ʕ/ and the nasal sonorant /n/ as in /mat ʕeeni ʕlee/ " let me be blind for his sake" for /ʕmat ʕeeni ʕalee/, between the plosive obstruent /t/ and the lateral sonorant /l/ as in /moot laffa/" death takes him", for /moot illaffa/.

3- [- long] →∅ / [+ sonorant] _____ [+ obstruent]
 V

A short vowel is also deleted in IA between a sonorant and an obstruent. The short front vowel /i/ is lost between the lateral sonorant /l/ and the glottal plosive obstruent /ʔ/ as in / xallabadla / " let me change it" for /xalli ?abadla/, between the approximant sonorant /w/ and the fricative obstruent /ħ/ as in /wħaat ubuuk/ " I swear by your father's life" for /wiħyaat ?abuuk/, between the palatal approximant /y/ and the plosive obstruent /k/ as in /ykirhuunak/ " they hate you" instead of /yikirhuunak/, between the approximant sonorant /r/ and the plosive obstruent /t/ as in /muuʃart/ " not necessarily" for /muu ʃarit/.

4- [- long] →∅ / [+ sonorant] _____ [+ sonorant]
 V

Deletion of the short front vowel /i/ also surfaces between two obstruents. Contexts of this sort of reduction are elicited between the nasal sonorant /m/ and the nasal sonorant /n/ as in /mnil xaariɖʒ/ " from abroad" for /minil xaariɖʒ/, between the two lateral approximants /l/ as in /ʕal winsa / " for the sake of entertainment" instead of /ʕalal winsa/, and between the lateral sonorant /l/ and the nasal sonorant /n/ as in /xan ʃuuf/ " let's see" for /xalli nʃuuf/.

5- [- long] →∅ / [+ obstruent] _____ #
 V

* Elision of consonantal segments which co-occurs with vocalic elision in this example and throughout this paper is not referred to since it is outside the scope of the current study.

This deletion rule reads that a short vowel is dropped in final position after an obstruent. The short central vowel /a/ is lost in word-final position when it is preceded by the plosive obstruent /b/ as in /halaw yaab/" Oh my darling" for /halaw yaaba/, after the fricative obstruent /ð/ and the plosive obstruent /k/ in final position as in /haað ween wðaak ween/ " there is a big difference between the two" for /haaða ween wðaaka ween/, and /ruuħ hnaak/ " go there " for /ruuħ hnaaka/.

6- [- long] → ∅ / [+ sonorant] _____ #
 V

The short central vowel /a/ is also deleted in final position after a sonorant. An example of the operation of this rule is represented by the loss of the /a/ after the approximant sonorant /y/ before a word juncture, as in /haay]loon/ " how is that, what should we do ", for /haaya]loon/.

7- [- long] → ∅ / [+ obstruent] _____ [+ sonorant]
 V

This rule deletes the short central vowel /a/ between an obstruent and a sonorant. The contexts of deletions are the following: between the fricative obstruent /h/ and the lateral obstruent /l/ as in /?ahlil beet / " The Prophet's Mohammed's relatives, Imams" for /?ahal ?il beet/, between the fricative obstruent /ħ/ and the approximant sonorant /r/ as in /baħr]biir/ " a big sea " instead of /baħar]biir/, between the fricative obstruent /ʒ/ and the lateral sonorant /l/ as in /ʒala muudak/ " for your sake" for /ʒala muudak/, between the glottal plosive obstruent /ʔ/ and the lateral approximant /l/ as in /laamuşalli ʒala muħammad/ " God may pray on the Prophet Mohammed" instead of /?allahumma şalliʒala muħammad/, between the glottal plosive obstruent /ʔ/ and the lateral sonorant /l/ as in /maa]aalla/ " what a great thing it is " for /maa]aa?allaa/, between the glottal plosive obstruent /ʔ/ and the nasal sonorant /n/ as in /nʒamalla ʒleek " God may offer you the prospect "/ for /?anʒamallaa ʒaleek/

8- [- long] → ∅ / [+ obstruent] _____ [+ obstruent]
 V

When underlying forms have the short central vowel /a/ between two obstruents, it is deleted. Examples of the operation of this deletion rule are seen below: between the plosive obstruent /b/ and the fricative obstruent /ʒ/ as in /baʒd iʃwayy/ " there is still something more, not yet" for /baʒad iʃwayy/, between the glottal plosive obstruent /ʔ/ and the plosive obstruent /g/ as in / taʒaa gillak/ " come to tell you something" for / taʒaal ʔagillak/, between the fricative obstruent /ʒ/ and the plosive obstruent /d/ as in /baʒd iʃgad " how much is left" instead of /baʒad iʃgad/, between the fricative obstruent /ʒ/ and the fricative obstruent /h/ as in /min ʒahdillingiliiz/ " since the English rule" for /min ʒahad il ʔingiliiz/.

9- [- long] → ø / [+ sonorant] _____ [+ sonorant]
 V

This rule applies when the short central vowel /a/ is dropped between two sonorants. The only context of such vocalic deletion is observed with the conjunction /wa/, when followed by the negative particle /laa/, precisely, between the approximant sonorant /w/ of /wa/ and the lateral approximant sonorant /l/ of /laa/. The following examples are good cases in point: /wlaa biʃfa/ " he has never cried" for /walaa biʃfa/, /wlaa galli/ " he has never told me" instead of /walaa galli /, /wlaa ʔadri / " I have no idea, nobody has told me", for /walaa ʔadri/.

10- [- long] → / [+sonorant] _____ # [+ sonorant]
 V

This rule deletes the short back vowel /u/ in word- final position after a sonorant and before another initial sonorant of a subsequent word. The examples in point are /ʃin sawwi/ " what to do" for /ʃinu nsawwi/, /ʃin dʒiib/ " what should we bring?" instead of /ʃinu ndʒiib/.

11- [- long] → / [+ obstruent] _____ [+ sonorant]
 V

Rule (11) implies that a short vowel is dropped between an obstruent and a sonorant. This context is applicable to the short back vowel /u/ which surfaces null between the plosive obstruent /d/ and the nasal sonorant /n/ as in /lʔamdilla ʒas salaama / " Thanks to God for

safety, for getting better" instead of /lĥamdu lillaa 9al salaama/, between the fricative obstruent /h/ and the approximant sonorant /w/ as in /yaawa minhum/ " which one of them" instead of /yaa huwwa minhum/.

12- [- long] → / [+ obstruent] _____ [+ obstruent]
V

This rule implies that a short vowel is lost between two obstruents. The corpus of data reveals that the short back vowel /u/ becomes empty between the fricative obstruent /h/ and the plosive obstruent /g/. The respective example is /min gallak/ " who told you " for /minhu gallak/. This context implies double elision where the glottal fricative obstruent /h/ is also dropped.

13- [+ long] → / [+ sonorant] _____ [+ obstruent]
V

This is the only rule that displays the deletion of a long vowel in IA. The context of dropping, as the rule implies, is between a sonorant and an obstruent. The long front vowel /ii/ surfaces null between the approximant sonorant /r/ and the plosive obstruent /d/. The following two examples are a good case in point: /ʔard aguul/ " I want to say " for /ʔariid ʔaguul/ ", / ʔard anaam/ " I want to sleep" for /ʔariid ʔanaam/.

7- OT Analysis of Vocalic Elision in IA

7.1 Theoretical Background

The key concern of optimality theory (OT) is to sketch out the associative tie between input (underlying form) and output (surface phonetic form) representations. This theory postulates that an input representation is associated with a host of candidate output representations and some kinds of filtration with the aim of evaluating the candidates and selecting the most well-formed ones via language-specific constraints. These constraints are ranked in a hierarchical fashion with respect to the relevance scale imposed by a given language (Crystal, 2003:329).

OT is built on the conflict between faithfulness and markedness constraints which are in tough competition to yield the optimal candidate. Demanding identity between the input and output forms,

faithfulness constraints seek to preserve the properties of the input without deletion, insertion or change. They are of three categories (After, Yavas, 2013: 215):

- 1- MAX-IO: implies that input segments must correspond to output segments. Stated otherwise, the input is maximally represented in the output. Accordingly, deletion is not licensed as stated in this constraint.
- 2- DEP-IO: requires that output segments must match input segments. Put differently, the output must be entirely dependent on the input; thus insertion is not permitted.
- 3- IDENT-IO(F): demands that the input representations of place, manner, and voice features should surface in the output; hence, feature change or segmental substitution are not possible.

Yavas (ibid.) reports that markedness constraints capture the generalizations on linguistic structures that commonly or uncommonly emerge in natural languages (unmarked (simple) vs. marked (complex). Unmarked structures are universal and innate and do not have to be learned. In contrast, marked features are language-specific and have to be acquired. Sample markedness constraints include " NO CODA. Syllables must not license codas; " * COMPLEX. Clusters are not permitted"; " *V NASAL. Vowels must not be nasalized."

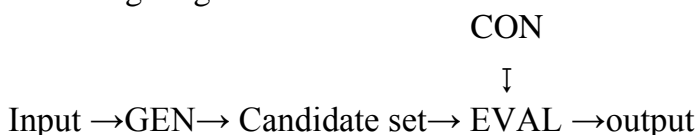
Though universal and common in all languages, markedness constraints function variously in different languages and are not equally applicable with respect to their ranking scale. Having nothing to do with lexical contrasts, since they are not directly associated with input form, markedness constraints compare the candidates with other candidates.

That is, the constraint which is ranked highly in one language is likely to be rated low in another language and easily flouted to satisfy a highly ranked constraint. A case in point is that * COMPLEX ONSET is ranked higher in Standard Arabic than English, which maximally permits triple-onset clusters. Consequently, different languages offer different degrees of priority to various constraints, and violating the high ranked ones will not lead to the optimal candidate (Gussenhoven and Jacob, 2011:120).

In a similar vein, sympathy theory (ST) postulates a careful scanning to the optimal outputs via carefully comparing an output candidate with another output candidate. The optimal candidate selected by a faithfulness constraint is referred to as "sympathetic candidate", which is marked by a pointing hand, and all other candidates are to be checked whether they show the same faithfulness violations (ibid.: 121).

In all grammars, the constraints are conflicting (Kager,1999, cited in Yavas, 2013:215), and thus it is not possible to satisfy all constraints simultaneously. This conflict can be resolved by ranking the constraints within a hierarchy, in a language-bound pattern. The optimal output (phonetic form) will be the one that incurs the least serious violations of a set of ranked constraints. Consequently, the candidate that flouts higher ranked constraints will not be the one that will survive.

The precedence among the constraints, as proposed by OT, is given by a left-to-right ordering, with the highest ranked constraint being on the left (Yavas, ibid.). Archangeli (1999) sketches out the cognitive processing of the OT candidate evaluation scheme through the following diagram:



7.2.The Projection of Vocalic Elision in IA via the Candidate Evaluation Scheme

Following the model proposed by Yavas (op.cit.), the generation of the elided outputs presented in section (6) will be illustrated by the following sample tableaux. The tableau is a two-dimensional table where the constraints are listed horizontally and the candidates vertically. The input that is screened by the constraints is placed at the top left corner. A* in a cell shows that the form of that row violates the constraint in the column, while *! Indicates that such a violation is gravisous (fatal) and thus excludes that form any consideration. The optimal (winning) phonetic output is marked with a little hand.

Tableau (1) Derivation of /wlaaya/ from underlying /wilaaya/

/wilaaya/ "city"	*DEP	IDENT-Quality	MAX
(a) wilaaya	*!		
▶ (b) wlaaya			*
(c) wulaaya		*!	

* DEP >> IDENT >> MAX

In this tableau, *DEP (no insertion) is the highest faithfulness constraint, thus is placed in the leftmost position. *Candidate (a) flouts the highest ranking and is thus neglected from further consideration. Candidate (c) violates IDENT constraint by changing the vowel quality; the short high front unrounded vowel /i/ into the short high back vowel /u/, and it does not survive. Candidate (b) violates the lowest- ranked MAX (no deletion) by deleting a vowel from the input, and thus is the winning one.

Tableau (2) Derivation of /mfaatiih/ from underlying /mafaatiih/

/mafaatiih/ "keys"	*DEP	IDENT-Quality	MAX
(a) mafaatiih	*!		
▶ (b) mfaatiih			*
(c) mifaatiih		*!	

* DEP >> IDENT >> MAX

Here, candidate (a) violates the highest ranking, the standard item, thus is eliminated from further consideration. Candidate (c) shows a fatal violation by substituting the short central unrounded vowel /a/ by the short high front vowel /i/, thus will not be selected. The only optimal candidate is (b) since it flouts the lowest ranking, (MAX), that is why, it survives.

Tableau (3) Derivation of /rmuu/ from underlying /rumuu/

/rumuu/ "eyelids"	*DEP	IDENT-Quality	MAX
(a) rumuu]	*!		
▶ (b) rmuu]			*
(c) rimuu]		*!	

* DEP >> IDENT >> MAX

* The constraint DEP deployed through out the sample tableaux and the whole paper is used reversely with the constraint MAX to refer to the full form (unreduced one) where a vocalic segment concatenates as a nucleus between two consonants to suspend deletion and then the possibility of consonant clustering is abandoned.

In this tableau, candidate (a) reveals a serious violation by flouting the highest-ranked constraint (DEP), the standard form, hence is not selected. In a similar scheme, candidate (c) shows a fatal violation by changing the short high back vowel /u/ into the short high front vowel /i/, thus is eliminated from further consideration. The optimal output weighs in favour of vocalic deletion (candidate b) since it violates the lowest ranking (MAX constraint).

Tableau (4) Derivation of /xubz ʔiir/ from underlying /xubiz ʔiir/

/xubiz ʔiir "barely bread"	*DEP	IDENT-Quality	MAX
(a) xubiz ʔiir	*!		
► (b) xubz ʔiir			*
(c) xubuz ʔiir		*!	

* DEP ≫ IDENT ≫ MAX

In this tableau, the winning candidate is no. (b) because the only constraint it flouts is the low-ranked faithfulness constraint MAX. Candidate (a) violates the high-ranked faithfulness constraint DEP; therefore, it does not survive. The last candidate flouts a higher rank constraint, IDENT-Quality, where the short high front vowel /i/ is replaced by the short low back vowel /u/, thus is rejected for yielding feature substitution.

Tableau (5) Derivation of /ʔala muudak/ from underlying /ʔala muudak/

/ʔala muudak/ " for your sake"	*DEP	MAX
(a) /ʔala muudak/	*!	
► (b) /ʔala muudak		*

* DEP ≫ MAX

Tableau (5) entails two conflicting faithfulness constraints, DEP and MAX, since there are two possible pronunciations. Line (a) is ruled out since it violates the highest ranking. Candidate (b) is the winning one because it flouts the lowest-ranked constraint MAX, where the common phonetic output surfaces.

Tableau (6) Derivation of /min gallak/ from underlying /minhu gallak/

/minhu gallak/ "who told you"	*DEP	IDENT [place]	MAX
(a) minhu gallak	*!		
► (b) min gallak			*
(c) min ɣallak		*!	

* DEP ≫ IDENT-Place ≫ MAX

This tableau offers an idea of the flavor of a relatively OT analysis, in which phonetically motivated tendencies and faithfulness to underlying forms seem to interact in a competing manner, candidates b and c. Line c is ruled out since it involves a change of point of articulation due to anticipatory (regressive assimilation) where the final nasal alveolar /n/ of /min/ is assimilated into the nasal velar /ŋ/ under the influence of the upcoming plosive velar /g/. Such output is very rare (less common) and it may seem an artificial form and is possible in careful deliberate pronunciation. Line (a) is rejected from further consideration due to the violation of the highest ranking DEP. The candidate that wins is (b) since it flouts the lowest ranking MAX.

Tableau (7) Derivation of /ʔard aguul / from underlying /ʔariid ʔaguul/

/ʔariid ʔaguul/ " I want to say"	*DEP	IDENT-son CODA	MAX
(a) ʔariid ʔaguul	*!		
▶(b) ʔard aguul			*
(c) ʔar daguul		*!	

* DEP ≫ IDENT- son-Coda ≫ MAX

Here, we consider a much more complex case of constraint interaction. Candidate (c) is possible in careful speech; however, it flouts SSP as it operates in coda. The change of syllabification, where the second element of the double coda /-rd/ is transferred to merge with the abutting vocalic segment /a/ forming a new syllabic patterning /cv/ instead of /v/. According to sonority hierarchy, sonority should start high on the onset, then, it drops on the coda. (Parker, 2002; Nathan, 2008; Harrington and Cox, 2009, to name a few). Candidate (C) violates this profiling since sonority index rises on the coda (the single coda -r) as compared to the single onset /ʔ/ (flaps have higher sonority profiling than voiced plosives). Candidate (a) does not survive since it flouts the highest ranking DEP. The only winning output is candidate (b) since it violates the lowest-ranked constraint MAX where it licenses the deletion of the front long vowel /ii/, thus the resulted double coda /-rd/ complies with SSP.

7- Discussion

Matrix (1) A Summary of the Contexts of Historical Vocalic Elision in IA

The Elided Vowel	Context of Elision	Context of Elision	Context of Elision	Context of Elision
	Obstruent_ Obstruent	Obstruent _Sonorant	Sonorant_Obstruent	Sonorant_ Sonorant
i	+	+	+	+
a	+	+	+	+
u	+	+	+	+

Matrix (1) above is a summary of the contexts where historical vocalic elision in IA emerges. A quick glance to this matrix reveals that all elided vowels occur in similar contexts; between two obstruents, between an obstruent and a sonorant, between a sonorant and obstruent, and between two sonorants. These reduced phonetic forms have become a part of IA lexicon representing a typology of phonological change in this Arabic dialect. Stated otherwise in technical language, the elided outputs are simply learned as the new underlying forms (Nathan,2008:103).

A survey to the effect of this phonological process on IA phonology indicates that phonemes concatenation is militated where the original number of syllables of the classical forms decreases leading to a change in syllabic patterning. In certain contexts, such efficacy entails sonority profiling yielding in impermissible sonority scale. As a case in point, the classical outputs of the words /nuðuur/ "sacrificial offerings to God" and /rumuʃ/ "eyelids", are built from a short open syllable /cv/ and a long simple close one /cvvc/. The colloquial outputs; however, minimize the original syllables into one, a long complex close syllable /ccvvc/. Thus the aforementioned items have become /nðuur/ and /rmuʃ/, respectively. Such phonotactic processing violates the SSP since sonority index drops on C₂ of the double onsets. Sonority value of the sonorant /n/ is higher than that of the obstruent /ð/ (5 vs. 4). In a similar vein, sonority index of the sonorant flap /r/ is higher than that of the sonorant nasal /m/ (7 vs. 5) (following the 10-point sonority scale suggested by Hogg and McCully, 1987).

Classical tri-syllabic lexemes surface as bisyllabic ones with different syllabic licensing and with violation of the SSP. To mention representative examples, the classical forms /niʃaara/ " sawdest" and /9aɖʒaaʔiz/ " elderly women", comprise three syllables each. The building blocks of the former are the syllables /cv/, /cvv/, /cv/ (three open syllables), and of the latter are /cv/, /cvv/, /cvc/ (one closed syllable and two open ones). The non- standard outputs are /nʃaara/ , with two open syllables concatenating subsequently as /ccvv/, /cv/, and /9ɖʒaayiz/, with two syllables patterning as /ccvv/, cvc/.

Flouting of the SSP co-occurs with the reduction of the number of syllables and the modification of their patterns. Sonority scale drops down as we glide from the voiced nasal sonorant /n/ to the voiceless fricative obstruent /ʃ/ (5 vs. 3). Once again, it descends as we glide from the voiced pharyngeal fricative obstruent /9/ to the voiced affricate obstruent /ɖʒ/ (4 vs. 2) (For more examples, see the corpus of data, appendix 2).

Matrix(2)A Summary of the Contexts of Connected Speech Vocalic Elision in IA

The Elided Vowel	Context	Context	Context	Context	Context
	Sonorant_#	Obstruent_Obstruent	Obstruent_Sonorant	Sonorant_Obstruent	Sonorant_Sonorant
i	-	+	+	+	+
a	+	+	+	-	+
u	+	+	+	+	-
i:	-	-	-	+	-

In fluent, unselfconscious discourse, vocalic elision in IA is routed in different phonetic contexts, as compared to historical deletion. Here, in addition to the three short vowels (listed in matrix 1),the long high front vowel /ii/ is subsumed under the process of sound disappearance. As can be read in matrix (2), the three short vowels /i,a,u/ display different contexts. The short high front vowel /i/ surfaces null in four different positions, between two obstruents, between an obstruent and a sonorant, between a sonorant and an obstruent, and between two sonorants. The loss of this short vowel seriously militates the number of the full (unelided) forms concatenation, where the number of the

syllables decreases together with the change of syllabic patterning. Floating the SSP also co-occurs due to these modifications. To mention a few examples, the utterance /gaa9id yiqra/ " He is reading, studying" is reduced into /gaa9 yigra/. The first item is a bisyllabic one with the syllabic patterning /cvv/, /cvc/. These two syllables have been merged into a simple long closed syllable concatenating as /cvvc/. The optimal output fatally violates sonority profiling constraint where sonority value drops on the single coda, the voiced pharyngeal fricative obstruent /9/ as compared to the sonority value of the single onset, the voiced velar plosive /g/ (2 vs. 3). Once again, this sort of derivation militates the global phonotactic constraint. Another case in point is elicited in the utterance /wiḥyaat ʔubuuk/ " I swear by your father's life", a common swearing expression, which is simplified into /wḥaat ubuuk/. The first item is bisyllabic concatenating as /cvc/ and /cvvc/. The optimal candidate surfaces as monosyllabic patterning as a complex long syllable /cvvc/. This change in the internal structure of this item is accompanied by a violation of sonority constraint, sonority scale falls down as we glide from the voiced approximant sonorant /w/ into the voiceless fricative obstruent /ḥ/ (8 vs.4).

The short low central vowel /a/ unveils different contexts of elision in spontaneous speech. It disappears in word-final position after a sonorant, between an obstruent and a sonorant, between two obstruents and two sonorants. However; its elision is suspended between a sonorant and an obstruent. Elision of this vowel also leaves its efficacy on syllabic phonotactics and sonority profiling. The second item of the reduced form /ta9aa gillak / "come on to tell you something" , addressing a male interlocutor, instead of the full form /ta9aal ʔagillak/, is tri-syllabic concatenating as /cv/, /cvc/, /cvc/, altered into a bisyllabic form patterning as /cvc/, /cvc/.

Violation of the SSP is routed in utterances such as /wlaa gaal/ " He has kept it secret, never told anybody" for /walaa gaal/, /wlaa ʔadri/ " I have no idea" for /walaa ʔadri/, as illustrative cases. Here, sonority profiling drops down as we glide from C₁ of the double onset, the voiced gliding sonorant into C₂, the voiced lateral sonorant /l/ (8-6), leading to a fatal violation in phonotactics.

The short high back vowel /u/ unveils different context of elision. It surfaces empty in word-final position (after a sonorant followed by another sonorant of a juxtaposed word), between an obstruent and a sonorant, between a sonorant and an obstruent, and between two obstruents. Its disappearance, as is the case of other elided vowels, deteriorates syllabic licensing and the number of syllables. Sonority profiling is also injured due to such deterioration.

Efficacy on syllabic patterning can be illustrated by examples such as /ʃin sawwi/ " What should we do, what to do" for /ʃinhu nsawwi/, /yaawa minhum/ " which one of them" for /yaa huwwa minhum/, /min gallak/ " who told you" for /minhu gallak/. The first item of the first example is bisyllabic concatenating as /cvc/, /cv/, one short close syllable and one short open syllable. It surfaces as monosyllabic patterning as /cvc/ as a result of deletion. The second item of the second example is bisyllabic concatenating as /cvc/, /cv/. It survives as monosyllabic patterning as /cv/ after flouting the lowest ranking constraint, (MAX) NO Deletion.

This generation process, as usual, leaves its trace on sonority hierarchy. It spoils both onset and coda sonority profiling. The derived form /ʃin/ initiates with sonority value (3), value of the onset /ʃ/, and terminates with a higher sonority rating (5), rating of the coda /n/ (According to the SSP, sonority should increase on the onset and drops on the coda). The winning output /min/ reveals another evidence of flouting the SSP. Both onset and coda score similar sonority value (55).

The corpus of the collected data unveils the deletion of one long vowel, the long high front vowel /ii/. It surfaces null in one phonetic context, between a sonorant and an obstruent, scoring the least number of contexts in comparison with the three short monophthongs (1vs. 4). This occurs as a result of reducing the form /ʔariid / " I want " into /ʔard / as in /ʔard amʃi/ " I want to leave" for /ʔariid ʔamʃi/, /ʔard aguul/ " I wanted to say", usually refers to the past, for /ʔariid ʔaguul/. Elision of this type minimizes the original syllables into one altering the syllabic patterning from /cv/, /cvvc/ into /ʔard/ resulting in double coda /-cc/with no violation to the SSP, sonority value gradually drops on C₂ of that coda.

The sample OT tableaux analysis traces the mechanism of output generation as proposed by optimality theory. The selected examples illustrate the precedence over a number of potential phonetic candidates which are screened by a number of faithfulness constraints, namely, DEP, IDENT, MAX.

Generally, rules ordering (constraints precedence) takes the form DEP»IDENT»MAX where the highest-ranked constraint (DEP) being on the left eliminating it to be the optimal candidate. The other two competing candidates are IDENT, occupying a higher rank than MAX, and MAX. In one tableau (Tableau 5), IDENT constraint has no place to compete, thus it has been excluded. In the first four tableaux IDENT entails the possibility of changing the vowel quality; however, such option has been rejected since it generates an output which is either artificial (used in other prestigious accent in IA such as Baghdadi Arabic) or a vulgar form. In tableau (6), IDENT implies a change in place of articulation due to a possibility of assimilation. This underlying form is eliminated since its potential surface output is less common. Last tableau (7) presents a more sophisticated case of competing IDENT constraint where the sonority of the coda candidate is militated. Once again, this underlying form does not survive since it occurs in careful deliberate speech either. The only winning candidate in the sample tableaux is the one governed by MAX constraint since it is placed at the lowest ranking generating the elided surface forms.

8- Conclusions

Based on the applicability of deletion generative rules and the OT constraints evaluation scheme on the available data, the following outstanding conclusions emerge. These conclusions offer convincing answers to the research questions set at the outset of this paper:

(i) Vocalic segments which are subsumed to the process of elision in IA are the short high front unrounded vowel /i/, the short low central unrounded vowel /a/, the short high back rounded vowel /u/, and the long high front unrounded vowel /ii/. The elision of the last vowel, /i:/ is elicited only in phrasal context.

(ii) Historical elision of the three short vowels has been routed in similar four phonetic contexts, namely, obstruent_obstruent, obstruent_sonorant, sonorant_obstruent, and sonorant_sonorant.

(iii) In phrasal context, the three short vowels and the long one undergo elision in quite different positions. The short front vowel /i/ surfaces null between two obstruents, between an obstruent and a sonorant, between a sonorant and an obstruent, and between two sonorants. The short central vowel /a/ is evaluated null in word-final position preceded by a sonorant, between two obstruents, between an obstruent and a sonorant, and between two sonorants. The short back vowel /u/ disappears in word-final position after a sonorant, between two obstruents, between an obstruent and a sonorant, and between a sonorant and an obstruent. The long front vowel /ii/ surfaces empty in an orphan position, between a sonorant and an obstruent.

(iv) Vocalic elision in IA has been proven very influential on syllabic phonotactics, syllabification, and sonority profiling. In many contexts, this type of elision results in double onset clustering which fatally violates the global sonority constraint, the Sonority Sequencing Principle (SSP).

(v) Most of the elided forms in IA have been learned as the underlying phonetic inputs and thus have become a part of the native speakers' repertoire (due to the fact that the reduced forms have been added to the IA lexicon).

(vi) In OT terms, the dominating constraints that compete to generate the elided forms in IA are three faithfulness constraints, namely, DEP, IDENT, and MAX.

(vii) These three constraints are operating as the equivalents to the phonological rules that generate the elided surface forms.

(vii) The precedence of the three faithfulness constraints are shaped in the following manner: DEP » IDENT » MAX.

(viii) Markedness constraints have no competing power in generating the elided forms in IA. Stated otherwise, markedness constraints have no phonological role in deriving the elided surface forms.

(ix) DEP and IDENT constraints are eliminated from evaluating the competing candidates since they are highly ranked.

(x) In most cases, IDENT constraint entails a change in vowel quality, and rarely it entails place of articulation and coda sonority profiling.

(xi) The only surviving constraint is MAX since it is the lowest-ranked constraint, functioning as the dominant generator that produces the surface deleted forms.

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Appendix (1)
IA Consonant and Vowel Symbols with Key Words

<u>Phonetic Symbols</u>	<u>Description</u>	<u>Example</u>	<u>Meaning</u>
<u>Consonants</u> *			
p (mainly used in Baghdadi Arabic)	a voiceless bilabial plosive	pyaada	on foot
b	a voiced bilabial plosive	buqa	he stayed
t	a voiceless denti-alveolar plosive	timman	rice
ṭ	a voiceless denti-alveolar emphatic plosive	ṭaalib	student
d	a voiced denti-alveolar plosive	dibis	molasses
ḍ	a voiced denti-alveolar emphatic plosive	ḍili9	rib
k	a voiceless velar plosive	kitaab	book
g	a voiced velar plosive	gumar	moon
q	a voiceless uvular plosive	qmaaʃ	cloth
ʔ	a voiced glottal plosive	ʔaxḍar	green
θ	a voiceless dental fricative	θuum	garlic
ḏ	a voiced dental fricative	ḏeel	tail
Ḍ	a voiced dental emphatic Fricative	Ḍaruf	envelop
s	a voiceless denti-alveolar fricative	saguf	roof
* After Ghalib, 1984.			
ʃ	a voiceless denti- alveolar emphatic fricative	ʃidig	truth
z	a voiced denti- alveolar fricative	zilim	men
ʃ	a voiceless palato-alveolar Fricative	ʃaari9	street

x	a voiceless uvular fricative	xaʃim	nose
ġ	a voiced uvular fricative	ġbaar	dust
ħ	a voiceless pharyngeal fricative	ħilim	dream
ʕ	a voiced pharyngeal fricative	ʕilim	science
h	a glottal fricative	hnaa	here
tʃ	a voiceless palato-alveolar affricate	tʃaay	tea
dʒ	a voiced palato-alveolar affricate	dʒibin	cheese
m	a voiced bilabial nasal	muʃar	rain
n	a voiced denti- alveolar nasal	nikta	joke
l	a voiced alveolar lateral	liban	diary
ɫ	a voiced alveolar lateral	ɫtaaf	kind (pl.)
r	a voiced alveolar flap	rmuuʃ	eyelids
w	a voiced bilabial approximant	wadʒaba	meal
y	a voiced palatal approximant	yoom	day
Vowels*			
i	a short high front unrounded	ʕigda	knot
ii	a long high front unrounded	ðiib	wolf
a	a short low central unrounded	?axdar	green
aa	a long low central unrounded	xyaat	sewing
oo	a long mid back rounded	loon	colour
u	a short high back rounded	muʕdi	contagious
uu	a long high back rounded	byuut	houses

* After Erwin (1963)

Appendix

(2)

The Data Corpus

1- Data Relevant to Historical Elision

The Full Form

The Elided Form

Meaning

The short high front vowel /i/

biʃaara

bʃaara

pleasing news

biġaal

bġaal

mules

fitaat

ftaat

crumbs

ðiraa9	ðraa9	arm
ɖʒibaal	ɖʒbaal	mountains
ɖʒimaal	ɖʒmaal	camels
niʃaara	nʃaara	sawdust
riʃaaʃ	rʃaaʃ	bullets
wilaaya	wlaaya	city

The short low central vowel /a/

taʃallaaha	tʃallaah	it was repaired
ɖamaad	ɖmaad	bandage
ɖa9iif	ɖ9iif	thin
9aɖʒaaʔiz	9ɖʒaaʔiz	elderly women
xalaal	xlaal	crisp dates
xanaaziir	xnaaziir	pigs
maəaʒiil	məaʒiil	ounces
malaʔika	mlaʔika	angels
waliima	wliima	dinner
yaluum	yluum	to blame

The short high back vowel /u/

buxuur	buur	incense
ʔuyuur	ʔuur	birds
duyuun	dyuun	debts
ðunuub	ðnuub	sins
ɖzuruuh	ɖzruuh	wounds
nuðuur	nðuur	sacrificial offerings to God
rufuuf	rfuuf	shelves
rumuuf	rmuuf	eyelids
yunabbih	ynabbih	to notify

2- Data Relevant to Contextual Elision

<u>The Full Form</u>	<u>The Elided Form</u>	<u>Meaning</u>
The short high front vowel /i/		
ʔilʔisaala	lisaala	the water supply station
farid marra	fadmarra	once
gilitlak	gitlak	I told you
gaa9id yiqra	gaa9 yiqra	he is reading
xalli ʔahʒi	xallahʒi	let me speak

xalli ?oogaf	xalloogaf	let me stand up
xalli ?abadla	xallabadla	let me change it
xubiz fi9iir	xubz fi9iir	barely bread
hiifheet wiyyaa 9ala muud 9ali	hiifheet wyaa 9la muud 9ali	I talked to him about Ali
9imat 9eeni 9alee	mat 9eeni 9lee	let me blind for his sake
labbisoooh	labsoo	they let him put on
maa ?idza	maadza	he has not come
minil beet	mnil beet	from the house
minil xaaridz	mnil xaaridz	from abroad, outside
min bi9iid	min b9iid	distantly
minil ?ahsan	mnil ahsan	for the best
min ?il kitaab	mnil ktaab	from the book
moot il laffa	moot laffa	death takes him
muu farit	muu farit	not necessarily
raah wayya buu	raah way buu	He went with his father
wihyaat ?abuuk	whaat ubuuk	by your father's life
yikirhuunak	yikirhuunak	they hate you

The short low central vowel /a /

baħar fi9biir	baħr i9biir	a big sea
ba9ad i9gad	ba9di9gad or ba9d izgad	how much has been left
ba9ad fi9nu	ba9 fi9nu	what else
ba9ad i9wayy	ba9di9wayy	after a while
ta9aal ?agillak	ta9aa gillak	come on to tell you something
?ahal ?ilbeet	?ahlilbeet	Prophet's Mohammed descendants
?an9amalla 9aleek	n9amalla 9leek	God may offer you the prospect
?allaahumma ŝalli 9ala muħammad	laamuŝalli 9ala muħammad	God may pray on the Prophet Mohammed
9alal winsa	9al winsa	for the sake of entertainment
9ala wakit	9la wakit	early
9ala muudak	9la muudak	for your sake
9ala hal ha9fi	9la hal ha9fi	according to what you are saying
halaw yaaba	halaw yaab	Oh, darling

haaḏa ween wḏaaka ween haaya ʃloon/ min ba9ad il da9aa maa ʃaaʔallaah min 9ahad il ʔingiliiz nruuh hnaaka raah 9alee rahmaḥḥa waaldeek	haaḏ ween wḏaak ween haay ʃloon min ba9dil da9aa maa ʃaalla min 9ahd illingiliiz nruuh hnaak raah 9lee hmaḥḥa waaldeek/	how different they are how is that after supplication great, bravo since the British rule we go there he went to see him May God have mercy on your parents even she failed he has never cried he has never told me nobody has told me
waʔiḏa risbat walaa biʔfa walaa galli walaa ʔadri	wiḏa risbat wlaa biʔfa wlaa galli wlaa ʔadri	

Elision of the short high back vowel /u/

lhamdu lillaa 9al salaama ʃinu nsawwi ʃinu ndʒiib minhu gallak yaa huwwa minhum	lhamdillaa 9as salaama ʃin sawwi ʃin dʒiib min gallak yaawa minhum	Praise to God for your safety what should we do what should we bring who told you which one of them
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Elision of the long high front vowel /ii/

ʔariid ʔaguul/ ʔariid ʔanaam/ ʔariid ʔamuut	ʔardaguul ʔarda naam ʔarda muut	I wanted to say something I wanted to sleep I might die
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